CLITICS AND HEAD-MOVEMENT AS INTRA-SYNTACTIC MORPHOLOGY

A Dissertation
Presented to the Faculty of the Graduate School of
Cornell University
in Partial Fulfillment of the Requirements for the
Degree of Doctor of Philosophy

by
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August 2017

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This dissertation approaches the idea of lexical types such as word, clitic and affix from an oblique angle. Starting with Cardinaletti & Starke's (1999) diagnostics for the Weak Pronoun, I deconstruct the category of clitic, breaking it down into two binary qualities: the syntactic primitive of being linked to a head of a different basic phrasal category, and the phonological primitive of being internal to the phonological word of the host.

I argue that the syntactic behaviors of clitic-words, in particular pronominal clitic-words, are predictable if we assume that there is an operation that allows Xmin/max elements to fuse with X^0 nodes during a syntactic derivation. This creates a complex X^0 node that selects a clitic-type spell-out form. This fusion process—m-merge, adapted from Matushansky (2006)—is the same process that drives the incorporation part of head-movement. I also propose that the features identified as phonologically clitic-like—reduction, lack of a syllabic nucleus, no coordination and morphological simplicity—result from a similarity to inflectional affixes. Instead of arguing for a distinct clitic phonology I suggest that clitics—when they are simple feature bundles—and agreement affixes are functionally identical and therefore are likely to undergo spell-out in the same way, in particular by being realized internally to their hosts' phonological word, and being able to determine the shape of their host to a greater extent than we expect word-level phonological processes to allow.

The evidence supporting these claims shows that many strange grammatical phenomena can be explained simply if we adopt the above principles. The operation m-merge—fusing an Xmin/max to an X^0 node—offers a straightforward account of the WH as C pattern in interrogative relatives in Middle Bavarian and Lake Constance Alemannic. Considering how my model affects the diachronic trajectory of word-to-clitic-to-affix and adopting a restricted version of Roberts (2010) Move via Agree provides insight into the behavior of French subject pronouns in Old French, Standard French, and Contemporary Colloquial French. Most dramatically, my model offers a straightforward analysis for eight highly distinct types of φ marking in Middle Welsh, even to the point of predicting that three very different syntactic contexts will have the same realization for a φ-marked element.

In sum, I argue that although clitics look and behave quite differently from canonical independent words and inflectional affixes, with a thorough understanding of the operations underlying head-movement and vocabulary insertion for paradigmatic elements, clitics are a predicted part of the model. Instead of requiring extra apparatus to explain, clitics offer us ways of simplifying our approach to syntax and the syntax-morphology interface as a whole.

BIOGRAPHICAL SKETCH

Cara DiGirolamo graduated from Princeton University in 2008 with a BA in Comparative Literature and certificates in Japanese and Creative Writing. Inspired by excitement about further applications of literary theory and teammates on her rugby team, Suffolk County Bullmoose, she began to take linguistics courses at Stony Brook University, then moving on to pursue her PhD in Linguistics at Cornell University. Although her focus upon entering graduate school was Japanese, she soon discovered an interest in Celtic Languages, such as Old Irish and Middle Welsh, and while endeavoring with all her might to avoid working on cliticization in any way, due to a single question about the Middle Welsh data in her dissertation prospectus, she ended up spending the next four years attempting to solve the clitic problem.

DEDICATION

"It is impossible to enjoy idling thoroughly unless one has plenty of work to do. There is no fun in doing nothing when you have nothing to do. Wasting time is merely an occupation then, and a most exhausting one. Idleness, like kisses, to be sweet must be stolen."
—Jerome K. Jerome

ACKNOWLEDGEMENTS

Thanks to my committee, John Whitman, John Bowers, Wayne Harbert, and Michael Weiss, and to the East Asia Program who funded me to look into how my theory worked for Japanese, and not giving me strife when I didn't use any of it. Thanks to everyone who didn't let me say "I've had enough!" and go home—you know who you are. Thanks to my cohort crew, Chelsea Sanker and Anca Chereches, and to my syntax buds Sarah Courtney, Ed Cormany, and Neil Ashton, and to my great friends Becky Butler and Theresa Snow. Definitely thanks to my companion in commiseration, wool, and worldbuilding, Emily Barth. Thanks to my writers group, particularly our Dark Lord, Virginia Cole. And So Much Thanks to my internet dissertation pal, Race, and the Sin Bin, for the support, distraction, entertainment and wild headcanoning, without which I would not have survived the 13 day revision marathon that left me languishing and physically incapacitated. And of course, thanks to my parents, Vincent DiGirolamo and April Masten, who never doubted that I could indeed finish this if I wanted to.

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INTRODUCTION

1 This Dissertation is ~~Not~~ about Clitics

It is not surprising that an investigation begun intending to discern the theoretical utility of the category of the weak pronoun resulted in a proposal addressing a variety of interface problems and accounting for the phonological variability and syntactic idiosyncrasy of clitic-type words. Clitics unbalance the tidy categories of word and affix, and question whether we are really so certain that those categories are good after all.

The attempts to define the term 'clitic' reveal flaws in our understanding of linguistic binaries, primitives and interfaces. Many proposals have attempted to make clitic behavior a predictable part of the narrow syntax, derived through phonological movement, or resulting from a single morphological operation. But these proposals often result in overpowering one of the modules or requiring unintuitive arbitrary specifications. Instead, if we allow for the behavior and appearance of these elements to be explained not just by any one module but by the interactions between all of them, there is no reason to assume that we cannot account for every element called a 'clitic' without assuming clitichood as special and idiosyncratic class of lexical elements.

This assumption forms the basis for the analysis proposed in this dissertation. Clitichood and cliticization are derivable from the basic properties and functions of the syntax, morphology, and phonology and their interfaces. But those interfaces are not well defined. If 'clitic' is not a basic lexical type, we must find ways of specifying what lexical types do exist and how to define them using syntactic, morphological, and phonological primitives.

One desideratum of any theory of lexical types is to have a system that takes a syntactic numeration and derives a phonological output in a principled manner. Proposals that say affixes are feature bundles and clitics are +clitic argue that the mapping of syntactic object to lexical type is encoded in the syntax. Lexicalist theories and Distributive Morphology suggest that construction of words takes place inside an independent morphological module that either feeds or is fed by a disinterested syntax. These proposals are based on too strong assumptions or rely upon a morphological black box, where morphological operations are applied without clearly defined constraints.

What clitics reveal is how much our primitives need examination. Are clitics words or affixes? heads or phrases? agreement features or sentential arguments? Each possibility, and often proposals claiming 'both' or 'neither' exist in the literature. Not knowing this hints at the truth, that we are unsure of the definition of any of these categories: What is a word? What is an affix? What is a head? and the rest. What clitics also make painfully clear is that we must try to understand these primitive elements from an integrated perspective, which looks for the edges of the modules and makes certain that the output is a type that can be computed as the input of the next.

In 1994 *Clitics, a Comprehensive Bibliography 1892-1991* was released, containing a list of over 1500 articles and monographs treating some aspect of the theory of clitichood. And since 1994, the quantity of literature on clitics has only increased. Proposals protesting that the category should be made defunct—Bermúdez-Otero and Payne (2011), Everett (1996)—have had little to no effect. Zwicky (1994) points out that "clitic" is too frequently used as an umbrella term, and that standard approaches to phonology, morphology and syntax, or their interactions, can account for many unproblematically. The idea that the interactions between phonology,

morphology, and syntax result in certain patterns, and that because they are interface patterns, they are difficult to describe using the terms of a single module, is my proposed avenue of investigation.

The reason to begin by addressing weak pronouns is because their existence deconstructs the common assumptions made about clitichood. As we will see in chapter 1, weak pronouns throw a wrench in the idea that the syntactic and phonological qualities of clitics are directly linked. And once we break the link between syntactic behavior and phonological shape for clitics, many other assumptions begin to falter and fall. One commonly held mapping is that a φ-marked affix is always in head position, and always receives its φ features via Agree, while a φ-marked word (an independent pronoun) is always a syntactic phrase, and bears inherent φ features. Although this mapping is certainly common, I do not agree that it is essential. Instead, I propose that breaking this mapping is the prerequisite for having a complete analysis for clitics and weak pronouns.

The theory of clitics offered in this dissertation involves four major proposals. First, rejecting the idea that clitics are in any way unitary, I argue that the syntactic behavior of clitic words is due to the fact that elements realized as clitics are a head—an X^0 node in the syntax—or are part of a complex head—often an Xmin/max element that has fused with a nearby X^0. This association with a head makes these elements be realized distinctively because complex heads are mapped to the phonological output in a distinctively different way than independent phrases. Second, I propose that morphologically complex heads are derived during the syntax, which means that head-fusion occurs at specific phases during the derivation. Third, I suggest that the subparts of complex X^0 nodes are mapped to their spell-out shapes as a unified feature bundle, which predicts different shapes for elements that are identical in the numeration but end the

derivation independently or fused to different heads. Fourth, I argue that φ-marking can indicate either feature valuation via Agree or inherent φ features, and that there is no way of determining which simply by lexical type. Pronominal clitics can be either theta-bearing arguments, or agreement probes. So, I argue, can φ-marked affixes, and, in theory, φ-marked independent words.

In arguing for these four points, I intend to show that with an interface model that specifies how lexical types are derived from 'primitives', we can account for the wide spectrum of variation we see in natural language, and also rethink what we mean when we call something an instantiation of a particular lexical type.

For elements I will identify as **'affixes'** I argue that they always end the derivation as part of a complex head, usually as a simple feature bundle, and therefore often have a phonological output that is internal to the phonological word of the main lexical root of the X^0 node they are linked to. Because there is no necessary connection between being an affix and having φ-features valued via Agree, special clitics and fused pronouns, if they have a combinatory phonological output, are also affixes. A φ-marked element may be an affix and still function as an argument of the verb or a preposition.

For the set of lexical items I will identify as **'clitic-words'**—including items identified as special clitics and linked words/weak pronouns—I argue that they end the derivation as part of a complex head. In languages where heads are made part of larger phonological phrases, they are always slightly phonologically reduced. When they are simple feature bundles and realized as internal to the phonological word of their host they are also affix-like phonological clitics.

For the set of items identified as **'independent words'** I argue that this includes both items that are Xmax and full X^0 heads. Some may be phonologically included into another

words' phonological phrase, but this does not make them phonological clitics. In essence, an Xmax category that has not undergone fusion to a head of another basic phrasal type will end the derivation as an independent word.

When we look at these definitions, it becomes clear that these terms only generally align with the groups previously identified by these terms. The previous descriptions were based on tendencies, not linguistic primitives. With the principles and operations I will argue for in the following chapters, we can account for a wide variety of language data.

In these chapters I have proposed a few changes to the syntax and morphology modules. For syntax, the major change is an adoption of a constrained version of Matushansky's (2006) m-merge. This allows head-movement to be an intra-syntactic operation which obeys the Extension Condition and maintains c-command relations. Although the actual act of head-fusion (m-merge) is still a morphological operation, by being constrained by syntactic features and occurring at set points in the derivation, it clarifies and defines the syntax-morphology interface.

Morphologically, the elements that undergo m-merge must be specified using syntactic features. These specifications are marked on a word class or a particular paradigm, not individual lexical items. My proposal relies upon the Distributive Morphology subset principle as applied to the output of m-merge. Late insertion for paradigmatic elements—including all φ-marked elements as well as non-φ linked inflectional morphology—is necessary to predict the patterns we see. I propose that elements with identical semantics have identical shapes in the numeration, and by the processes that occur during the derivation acquire other features and associations with other features that are used to determine the output form. This includes assignment of tense and case and also the features on any head they may fuse to. Only once specified are they matched with an output form. This output form mapping takes the whole X^0 into account, predicting

different output forms based on what other elements are fused into the X^0. This allows for a clitic fused to a C head to have a different output form to a clitic fused to a T head, but it does not necessitate a difference.

Including these system adjustments removes the morphological black box, restricts morphological operations in the ways the data expect, and integrates the morphology into the syntax.

Although I am not making a proposal about the phonology itself, one of the desiderata of my system is that the output from one module can be the input to another module without drastic changes. The output of the syntactic derivation, I argue, should be able to function as the input to phonological operations, which are sensitive to syntactic and morphological structures. After insertion of the forms of paradigmatic morphemes, phonological processes can apply. During the word formation process, the differences between elements with individual output forms and elements which help to determine a single output form for the X^0 node result in outputs that are more or less like a phonological clitic. But once the words have been constructed, phonological processes can affect all parts. To what extent these parts can be reordered or reshaped, I will ask phonologists to decide.

By incorporating a restricted morphology into the syntax and allowing the phonology to apply to the output of the morphosyntactic derivation in a systematic way, I have built an integrated interface model that predicts a wide variety of lexical types. As clitics and weak pronouns have always been the stones in the shoes of syntax and phonology, I have constructed this model beginning with them rather than attempting to fit them in as an afterthought. By investigating these lexical types and accounting for their idiosyncrasies I have found points of

insight into quite a few other ancillary problems of morphosyntax, and I hope that this proposal will offer insight for future researchers into other problems as well.

2 Roadmap

Chapter 1: The Curious Case of the Weak Pronoun

In this chapter I begin my investigation by interrogating Cardinaletti and Starke's (1999) theory of the weak pronoun. I argue that there is, indeed, a typological need for a third category of lexical item which has properties in common with both strong pronouns (independent words) and clitics. But rather than defining it as a third syntactic object, I argue that Cardinaletti and Starke's (1999) diagnostics, when reevaluated in view of currently accepted theories about the behavior of syntactic elements, show that there are in fact four lexical types which can be described in binary terms: phonological word or phonological clitic, and syntactic word or syntactic clitic. As syntactic clitichood and phonological clitichood are not inherently linked, I define special clitics as having both the phonological shape and syntactic behavior of a clitic, while I define weak pronouns—linked words—as have the phonological shape of a full word but the syntactic behavior of a clitic.

Chapter 2: How do you Solve a Problem Like Middle Welsh?

In this chapter, I show that there is a need for this four-part set of lexical types by applying my reformulated diagnostics to Middle Welsh. Middle Welsh is an ideal language for this test, because it has six distinguishable sets of pronominal type lexical items, plus two kinds of φ-marked affix. These sets of pronouns differ both in emphasis and in syntactic distribution. In this chapter I show that the so-called 'affixed pronoun' fits the diagnostics intended to identify the

weak pronoun. The 'independent pronoun' acts as we expect a strong pronoun/full word to act. And the infixed pronoun functions as expected for a second position clitic.

Chapter 3: The Interface Solution: Head Linking and Lexical Roots

In this chapter I lay the foundations for the morphosyntax of the syntactic clitic, or 'clitic-word'. The clitic-word refers to any element that functions syntactically like a clitic, regardless of its phonological shape. I propose that the diagnostics we have used to identify clitic-words fit the behavior that would be expected of a head or a pronominal argument that has undergone fusion with another head. Using a constrained form of Matushansky's (2006) theory of m-merge, I offer a syntactic model that incorporates the morphological derivation of a head into the syntax.

I also refine my definition of phonological clitichood, arguing that the diagnostics pinpoint a particular type of phonological clitic—the affix-like clitic, and that many of its particular diagnostic facts are linked to its similarities to inflectional affixes, on both a syntactic and phonological level.

Chapter 4: Cliticization in the Real World

In this chapter I test the syntactic predictions made by assuming that a pronominal argument can be realized as a clitic by undergoing fusion with a head on data from Middle Bavarian and Lake Constance Alemannic, and also on varieties of French. With the Bavarian data we can see that this formulation of cliticization can explain not only the behavior of pronouns but also the irregularities in the interactions between WH elements and C. With the French data we motivate a separation between lexical type and whether a φ-marked element is uφ or +φ, and show how

our constrained morphological system predicts the diachronic shifts from one lexical type to another that we see in the history of French.

Chapter 5: If Syntax Can Handle Middle Welsh, It Can Handle Anything

Here I show how the explanatory power provided by the complete model proposed in Chapter 3 is necessary to account for the vagaries of real language data. I return to the puzzle of Middle Welsh and show how our understanding of the interaction between phonology, morphology and syntax can smoothly and concisely account for a variety of φ-marking morphemes.

I propose an analysis for five types of Middle Welsh φ-marking morphemes: the subject affixed pronoun, the conjunctive/reduplicated/simple contrasts in independent and affixed pronouns and the reduplicated pronoun's diachronic development into a discourse particle, conjugated prepositions, post-prepositional φ elements, and post-genitive φ elements. Though all of these cases are different, the proposed model gives us the tools to account for each one, and also suggests answers for many ancillary problems, such as the Welsh DP, the mapping of discourse properties onto different lexical types, and unifying the cases where the φ element is realized as an 'affixed' pronoun.

Conclusion:

In the conclusion I summarize my interface proposal and argue that including morphological operations in the syntactic derivation does not overpower the model. Because the proposal is integrated into a system where the interfaces of the various modules are aligned, they are already strictly constrained. In addition, this proposal adopts the intuitions and insight included in many previous accounts and realizes them in an integrated and simplified way.

CHAPTER 1

THE CURIOUS CASE OF THE WEAK PRONOUN

The category weak pronoun emerged from a disjunct between the expected appearance and behaviors of clitic pronouns and that of independent pronouns. Independent pronouns have the distribution of the full noun phrases they replace, while clitic pronouns are syntactically restricted, their final sentence position requiring individual and sometimes idiosyncratic, grammatical rules to describe. Phonologically, independent pronouns are just that—independent, while clitic pronouns require a host to support them, and are often dramatically reduced forms of their independent correlates.

These tendencies served as a way of identifying clitics. Zwicky (1983) created a list of key features with which to identify them: clitics are phonologically minimal, unstressed, usually monosyllabic, they often have full-word variants, they do not seem to be bound to to particular word classes, and often their syntactic placement is unlike any other word category (Zwicky 1983). But certain items threw a wrench in this descriptive system. Some pronouns appeared to be phonological reductions of full-word elements, remaining in the same location as the full word, and other, phonologically unreduced pronouns ended up in places independent words could not appear. Zwicky (1977) separated clitics which only have phonological abnormalities from the ones with both phonological and syntactic abnormalities and proposes two types of clitics: *simple clitics*, which are unaccented and phonologically subordinate to another word, have an independent word version and appear in the same syntactic position as their independent word version; and *special clitics* which are also unaccented and phonologically subordinate to another word, but appear in differing syntactic positions to their free variants if a free variant

exists. But a fourth type remained—the phonologically unreduced type, sometimes stressed, sometimes bisyllabic—which appeared in positions unlike those where non-pronominal elements playing the same role in the sentence landed. Various proposals appeared in the literature to account for these elements (Berendsen (1986), Monachesi (1998) etc.). Perhaps the phonological restrictions on clitics were too strong, and bisyllabic clitics were indeed possible. Italian dative *loro* was argued to be such a clitic, in that it had abnormal syntactic behavior, but the phonological shape of a full word.

Cardinaletti and Starke (1999) took these pronouns that were syntactically odd and phonologically too normal to be ordinary clitic pronouns and named them weak pronouns. They argued that it was not simply their phonology that made them different, but their syntax and their semantics also. They then proposed an analysis of their behavior that made them a third syntactic type, semi-deficient, between very deficient clitic pronouns and complete independent or 'strong' pronouns.

The Cardinaletti and Starke (1999) model was the first to define this category as distinct from either traditional clitics or full-word pronouns. They proposed the concept of deficient pronouns, encompassing both clitic and weak pronouns, identifying them as lacking at least one of three proposed word-internal syntactic heads (lacking the C head, which bears the indexing, but retaining the Σ and I heads). They found that deficient pronouns were often phonologically reduced in comparison to their full-word alternative, but not necessarily so. What joined the class of deficient pronouns together was their syntactic distribution: most importantly the simple fact that they do not appear in the same positions as their non-deficient alternatives.

1)	*essa/leis/Maria*	*forse l'ha fatto*	**essa/leis/Maria*	*da sola*
	it/she/Mary	maybeit-hasdone	it/she/Mary	DA alone
	'Maybe (it/she/Mary) has done it alone'			

Here, *essa*, the deficient pronoun, cannot appear in both positions that are available for independent pronouns and NP/DP arguments.

Although Cardinaletti and Starke (1999) began their discussion focused on pronouns, any definition of the weak pronoun must be predicated on the definition of a lexical type encompassing elements which are prosodically independent, but syntactically dependent. Both pronouns and non-pronominal elements can be realized as this lexical type. Cardinaletti & Starke (1999) make an even stronger claim, saying "a theory of clitic elements should be applicable across lexical classes: just as personal pronouns may be either clitic, weak or strong, all of adverbs, adjectives, quantifiers, WH-pronouns, nouns, etc. are found in all three format *[sic]*."

Alternatively to this approach, phonological proposals have been made which offer insight into the potential available lexical types. Anderson (2005) returns to the distinction between special and simple clitics and formalizes it by separating the syntactic clitic features from the phonological clitic features. Phonological clitics are deficient, he argues, because they lack a prosodic element that words have. syntactic clitics are different, but Anderson (2005) does not offer an explanation of this difference.

> **Phonological clitic:** a linguistic element whose phonological form is deficient in that it lacks prosodic structure at the level of the (Prosodic) Word.
>
> **Syntactic clitic:** a linguistic element whose position with respect to the other elements of the phrase or clause follows a distinct set of principles, separate from those of the independently motivated syntax of free elements in the language. (Anderson 2005)

If we, along with Anderson (2005) assume that the morphosyntacic behavior of clitics and their phonological behavior are independently motivated, we have an available set of four lexical

types without assuming a three-way syntactic distinction ala Cardinaletti and Starke (1999). Our four types are these:[1]

Table 1. Four Lexical Types

	Phonological Word	**Phonological Clitic**
Syntactic Word	Independent Word	Simple Clitic
Syntactic Clitic	Linked Word	Special Clitic

Independent words: Items that are neither phonological nor syntactic clitics.

Simple clitics: items that are phonological clitics but not syntactic clitics.

Special clitics: items that are both phonological and syntactic clitics.

And *linked words*: items that are syntactic clitics, but not phonological clitics.

But this four-way typology comes with many assumptions and many questions attached. Is it the case that contra Cardinaletti and Starke (1999) the syntax for a weak pronoun/linked word, can be described in the same way as the syntax for a special clitic? What does it mean to be a phonological clitic? What does it mean to be a syntactic clitic? In this chapter I will investigate these questions using the lens of the diagnostics for strong/weak/clitic pronounhood from Cardinaletti and Starke (1999). I will evaluate them for how well they pick out and describe the lexical types posited above. And I will probe the assumptions made by these diagnostics for what they predict regarding the theoretical description of these lexical types.

1 The Case Constructed by Inspectors Cardinaletti & Starke (1999)

In pursuit of the weak pronoun, Cardinaletti and Starke (1999) discovered a principle that they believed could distinguish between two types of pronouns. If a pronoun can be conjoined, it cannot refer to a non-human entity. This principle breaks down into two predictions: strong

1 I refer to the general lexical type containing the weak pronoun as a 'linked word'.

pronouns may undergo conjunction, while only deficient pronouns (including both weak and clitic pronouns) refer to non-human entities. In their first example, they presented Italian as the language where we could see an overt distinction in pronoun types.

				+human	–human
2) a.	Esse	(*e quelle accanto)	sono troppo alte.	√	√
b.	Loro	(e quelle accanto)	sono troppo alte.	√	*
	3.pl.fm.nom	(and those besides)	are too tall/high		

Though many of the examples did not have an overt morphological distinction, they found that native speakers preferred pronouns in a conjunction to have human referents (Cardinaletti and Starke 1999).

English, one of the few languages with an animacy contrast among third person pronouns, supposedly shows a degradation in the use of third person inanimate 'it' in a conjoined phrase.[2]

3) a. ?It and the other one are in the back room.
b. He and the other one are in the back room.

Proposing a syntactic analysis to explain this tendency, Cardinaletti & Starke (1999) developed a number of other diagnostics that were intended to distinguish deficient pronouns from strong ones. They also included diagnostics meant to separate weak and clitic pronouns.

1.1 Cardinaletti & Starke's (1999) Diagnostics

The diagnostics proposed by Cardinaletti and Starke (1999) include nearly every type of property—semantic, syntactic, morphological and phonological. Most of these were in reference to distinguishing deficient pronouns from strong ones, and therefore they assume that the

2 There is some debate about the accuracy of this judgment. Courtney (personal communication) points out that speaking of a matching set of end tables, we can refer to the one we saw before and its pair with easily with (a). The acceptability of (b), however, suffers, likely due to the difficulty of conjuring a context where one referent is given the definite pronoun 'he' and a paired animate referent is referred to with a phrase containing indefinite 'one'.

qualities motivated by the syntactic structure (which, due to the Index feature inherent in strong pronouns but unavailable in deficient forms) are essentially the same.

Morphological deficiency
- deficient pronouns are often shorter, lacking a preposition, etc.

Phonological deficiency
- deficient pronouns are able to form a single prosodic unit with an adjacent lexical element
- strong pronouns cannot undergo reduction

Syntactic deficiency
- deficient pronouns cannot appear freely in all the same positions strong pronouns can.
  - not in base/theta position
  - not in peripheral positions (dislocation, clefting, isolation)
- no c-modification (only PRON, also PRON)
- no coordination

Referential deficiency
- deficient pronouns must have prominent discourse referents
- contrastive stress, ostention is only allowed if they refer to a prominent discourse referent
- expletives must be deficient
- impersonals must be deficient
- non-referential datives must be deficient
- strong forms must refer to human entities

However, when they make a move toward differentiating between weak and clitic pronouns, they also attribute their differences to the syntax. Cardinaletti & Starke (1999) propose this separation between the three types.

4) **strong** - full phrases — *jemu* (Slovak) *lui* (Italian)…
weak - full phrases - deficient — *ono* (Slovak), *es* (Olang-Tirolese)…
clitic - heads - deficient — *mu* (Slovak), *lo* (Italian)…

This break-down assumes that there are two syntactic features at play: head vs phrase and ±deficient. Deficiency is responsible for syntactic restrictions, such as not being allowed to appear in base position where arguments are merged and not information structurally salient positions, e.g. externally merged A-bar positions. But this cannot mean that these are phrasal positions and the motivation for being verboten is that they must be in a head position. Only

clitics appear in X^0 positions. But it is unclear what weak pronouns being deficient yet appearing in phrasal position means and how it predicts the diagnostics seen above.

The problem with this analysis is that the set of diagnostics picks out the difference between two categories, but they have proposed three. And we must rely on the presence or absence of the poorly defined quality of 'deficiency' to complete the account, rather than engaging with the accepted syntactic contrast between head and phrase.

Cardinaletti & Starke's (1999) idea of deficiency seems to be based on the idea that all lexical items are built up from multiple projections. An element with a set of three functional heads plus a lexical head is a non-deficient full word. An element with only two is deficient, but still a full word. An element with only one is a clitic: a deficient head. However, in theories where a functional head is necessary to give direction to a lexical root, such as Baker 1988, only a single functional head and a lexical root are required to create a fully functional non-deficient word.

This arbitrary head-counting is unsatisfying in any model of minimalist syntax. If we define a head as unitary, and a phrase as minimally binary, having a third head cannot produce an alternative structure. Instead, the third head in the strong pronoun can only act as an optional pronominal feature (±human) included in the lexical specification. The intuition that syntactic structure is responsible for the different behaviors of these elements falls apart. And yet, the diagnostics presented above have very strong predictions about the syntactic output. Thus it seems that we must find a different way to account structurally for the differences between these pronoun types.

Leaving behind the three-way distinction, I suggest that it is the quality of 'deficiency' that needs a syntactic explanation. I will also look for a way to distinguish clitic and weak

pronouns, but following the idea of the four-way distinction above, I suggest that this distinction has to do with our perception of what phonologically counts as clitic-like. In the following section I will examine each of Cardinaletti & Starke's (1999) proposed diagnostics to see if they can be interpreted to identify a natural dichotomy between the four lexical types: independent word, linked-word, special clitic, and simple clitic.

2 The Diagnostics

2.1 Phonological Deficiency

Cardinaletti & Starke's (1999) proposed phonological markers of deficiency are essentially identical to what we would expect from phonological clitics according to Anderson (2005). Using his prosodic hierarchy, an element without its own prosodic word node must form a prosodic unit with another lexical element in order to be pronounced. When we are discussing deficient and strong pronouns as complementary pairs, such as with Zwicky's (1977) simple clitics, we expect the clitic form to be distinctly phonologically reduced in comparison with the strong pronoun form. This often results in elements that are a single syllable, or even lacking a syllabic nucleus. This reduction can be explained as the loss of its own independent prosodic word node via reanalysis. As the element becomes phonologically smaller than a foot, it requires outside help to maintain the sentence's foot-binarity. Binding to another element for footing can eventually be interpreted by speakers as an inability to appear independently. The element is perceived as lacking a phonological word node, and thereby becomes a phonological clitic.

Although it is possible to argue that phonological reduction is also linked to the syntactic status of clitics it is insufficient to motivate the degree of restriction we like to see as a phonological quality of clitics. Truckenbrodt's (1995) theory of the syntax-prosody mapping

requires that an XP must be contained inside a single phonological phrase, thereby bringing together the specifier, head and complement of a syntactic phrase inside a phonological constituent. Nespor and Vogel (1986) claim that although syntactic domains cannot account for all the domains of phonological rule application, syntactic structure is the major input for the construction of a phonological phrase. The domain of a phonological phrase consists of a clitic-group which contains a lexical head (V, N, A and perhaps P) and all of the clitic groups on its non-recursive side up to the clitic-group that contains another head outside of the maximal projection of X (Nespor and Vogel 1986:168). This definition of a phonological phrase not only includes both clitics and heads but gives them an essentially equivalent status. Lexical heads drive the formation of a phonological phrase, and non-lexical heads and clitics are clustered around them—not sensitive to labelling, but sensitive to recursion. If we assume that non-lexical heads and clitics are treated in the same way according to rules for the application of prominence, the fact that non-lexical heads are often unstressed and reduced as clitics are unstressed and reduced, if we argue that clitics are also non-lexical heads, we can say that their reduction is due to the same phonological constraints.

However, if we are looking for a way to distinguish clitics and linked words, this does not seem strong enough. Though non-lexical heads are often phonologically minimal, they vary as much as the class of linked words. For example, a non-lexical head such as the Middle Welsh demonstrative *honno* is bisyllabic, just like Italian *loro*. Therefore, it seems that if we want to maintain bisyllabicity and stress as a distinctive feature, available for linked words but not special clitics, we must find something besides being a head to determine that.

It is also clear that we cannot reduce Anderson's (2005) phonological node analysis to membership in a phonological word, because languages vary on whether clitics are or are not counted as part of a phonological word.

Taken together, all of these facts seem to indicate that our intuitions about what counts as a phonological clitic may, in fact, not be picking out a coherent set of elements. I will discuss the implications of these facts further in chapter 3. However, what we can take from this is that regardless of whether or not the concept of 'phonological clitic' is a real thing, the qualities of bisyllabicity and stress cannot tell us anything about the syntactic structure of a clitic-word

2.2 Morphological Deficiency

Cardinaletti & Starke (1999) suggest that morphological deficiency is a sign of syntactic deficiency: the lack of a segment of the word or a missing part of a phrase indicates a lack of a syntactic head.

In some cases, this head/missing head alternation is visible such as Slovak *jeho/ho*, where *jeho* could be composed of two heads *je* + *ho*, or Italian *a loro*/*loro,* where the *a* head, though apparently prepositional, could be interpreted as a head internal to the pronominal DP instead. But other examples, such as French *lui/il* cannot easily be analyzed as a bimorphemic/monomorphemic set.

Even for the ones that are easy to break into multiple heads, it is unclear whether that is the best analysis. Unless it is functioning as a case head, interpreting a preposition as internal to a DP seems to violate the parallels between the independent word pronouns and the full NP/DP arguments. Additionally, if there is a secondary morphological head, what does that head contribute semantically? If it is unclear, it seems equally plausible that we are only losing a

morphologically insignificant phonological element. I will investigate the idea that there is a semantic result indicating the loss of a functional head further in section 2.4.

Since it is difficult to identify what morphological deficiency means and separate it from phonological deficiency, it is an insufficient diagnostic to identify deficient pronouns or to distinguish between weak and clitic forms. It is more likely that these types of morphological alternations are either phonological reduction or suppletion rather than a difference in syntactic structure.

2.3 Syntactic Deficiency

One aspect of Cardinaletti and Starke's (1999) diagnostics for syntactic deficiency is that many are most applicable when considered in terms of being an argument of the verb. Proposals, such as Roberts (2010) where clitics are agreement features—the agreement being realized on a head—are uninteresting when seen in terms of these diagnostics. We know that agreement never reflects coordination, either agreeing with the sum of the features or the first conjunct. We know that agreement does not appear in an A' position, because that would imply a feature bundle internal to a head can be somehow marked for topic or focus and undergo A' movement. And if the clitic is not the actual argument, why would it matter that it cannot appear in theta position. The statement, though, that clitics cannot appear in base position, however, strongly implies that the initial merger site of a clitic is not its final landing site. Since these diagnostics were developed in order to diagnose deficient pronouns particularly, I will take my basic assumption to be that by some means, a pronominal clitic can be initially merged as the theta marked object of a verb or preposition. As I am also entertaining the idea that deficiency means head-status, I will, in this section, argue that it is possible to both be an argument of a verb or preposition and a

head. I use the term 'cliticization' to refer to a process by which an Xmin/max element initially merged in a specifier or complement position can incorporate with a head and take on the properties of being a head, including the property of being realized in clitic-shape.

2.3.1 Coordination

The basic principle Cardinaletti & Starke (1999) use to identify the difference between deficient and strong pronouns I repeat here:

5) If a pronoun can be conjoined, it cannot refer to a non-human entity.

Strong pronouns, Cardinaletti & Starke argue, can be conjoined and may only refer to humans. While deficient pronouns cannot be conjoined, but may refer to non-human entities.

As we saw in example (1), Italian *esse*, is a weak pronoun, because it cannot be conjoined, but may refer to either a human or a non-human entity. Nominative *loro,* however, is strong because it can be conjoined, but cannot refer to a non-human entity.

Why should deficient pronouns not be able to undergo coordination? Although Cardinaletti and Starke (1999) do not connect deficiency with head status, the only major proposed restriction on coordination is on coordination of heads in Kayne (1994). Kayne (1994) points out that French pronominal clitics cannot be coordinated, and argues that this is because they are heads and not maximal projections.

6) **Jean te et me voit souvent.*
Jean you & me sees often.
'Jean sees you and me often.'

Kayne's theory predicts that coordination is a diagnostic that separates heads from full phrases.

However, the idea that functional heads cannot undergo coordination has been disproven. Benincà & Cinque (1990), Sportiche (1997), and Johannessen (1998) all show that other

pronouns argued to be heads can be coordinated. Johannessen (1998), for example, shows that Norwegian pronouns, which have been argued to be heads (cf. Hestvik (1992)), can be coordinated.

7)	*[Han*	*og*	*hun*	*I*	*den*	*omfavnelsen*	*der]*	*er*	*de*	*søteste*
	he	and	she	in	that	embracing	there	are	the	sweetest

'Him and her in that embrace there are the sweetest'

Kayne claimed that these so-called examples of clitic head coordination were actually right node raising, involving an empty category. But Johannessen (1998) shows that Kayne's analysis does not work for all the data. She argues that any two elements of the same category may be conjoined, whether they are heads or maximal projections.

If inability to undergo coordination fails to be a diagnostic for heads, what could prevent deficient pronouns from being coordinated?

Cardinaletti & Starke's (1999) analysis fails to account for this diagnostic. Weak pronouns are phrasal, and the only other feature in the syntax, the Index feature on strong pronouns, should have no effect on coordination.

In fact, the facts supporting the diagnostic itself are questionable. Although Cardinaletti & Starke (1999) say in footnote 32 that *moi* is a weak pronoun, Johannessen (1998) shows that it is fine to conjoin *moi*.

8)	*Ma*	*soeur*	*nous*	*voit*	*souvent,*	*lui*	*et*	*moi*
	my	sister	us	sees	often,	him	and	me

'My sister often sees us, him and me.'

This context, right dislocation, is one where Cardinaletti & Starke do not predict weak pronouns to occur. Thus, *moi* is either always a strong pronoun, or there are two forms of *moi*, weak and strong. The third option is simply that there is no restriction on the coordination of weak pronouns.

More tellingly, Manzini (2013) shows that genitive *loro,* supposedly weak, may be coordinated. Genitive *loro*, just like dative *loro*, is restricted in its available positions. Dative *loro* can appear immediately postverbally, ungoverned by a preposition, in a dative shift like position where *lui* 'him' and *lei* 'her' are unavailable. Genitive *loro* can appear pre-nominally, ungoverned by a preposition, in a position where *lui* 'his' and *lei* 'her' are unavailable. Thus it fits the distributional and morphological aspects of weak pronouns, and yet it can still undergo coordination.

9) *Santagata e Morganti, che negli anni hanno ricondotto*
S & M who in year got bring.back
alla ***loro*** ***e*** ***nostra*** *quotidianità anche i mondi*
a 3pG & 1pF daily.life also I worlds
degli autori volta a volta visitati
from authors time to time visited
'Santagata and Morganti, who throughout the years have brought back to **their and our** daily life, also the worlds of the authors in turn visited' (Dostoevskji)

10) *E che oggi, per fortuna* ***loro e nostra****,* *non soffia più.*
CONJ that today, for luck 3pG CONJ 1pG, NEG blow anymore
'And that today, for luck **theirs and ours**, no longer blows.'

It is possible that instead of diagnosing deficiency, the ability to undergo coordination may help us to isolate the property of phonological clitichood. Clitics, simple and special, are generally accepted to not undergo coordination. But weak pronouns are a little more free in this regard. Perhaps we can propose a phonological motivation for this constraint.

Conjunctions, which are heads according to Johannessen (1998), also tend to be phonologically reduced, and some are very clearly clitics in both the phonological and syntactic senses. (Consider Latin X Y-*que.*) It is possible that attempting to combine two elements with the properties of phonological clitics results in the inability of the phonology to assign a prosodic word node to that segment of the sentence, thus leaving the sentence unpronounceable.

Certain languages may assign prosodic prominence and wordhood to conjunction phrases in different ways, so cross-linguistic variation is predicted. Chereches (2015) argues for assignment of prosodic word-hood to clitic clusters, which may or may not be possible with clusters including conjunction.

However, coordination seems to have more to do with syntax than phonology, so attributing this diagnostic to phonological characteristics is less than ideal. There remains an explanation that maintains both the intuitions of Kayne (1994) and the free conjunction of Johannessen (1998). Kayne suggested that heads were forbidden from being conjoined. But instead of this, I propose that conjoined elements cannot undergo the operation a clitic undergoes to get to its final landing site—this type of operation perhaps being related to head-movement. If a ConjP is merged in an argument position, in order for it to be realized as a clitic—clitics being heads—it must be able to be interpreted as a head. A ConjP can never function as a head because it is too obviously a phrasal projection. However, subparts of the ConjP may potentially move out of the ConjP into a clitic position. Using this analysis, there is no ad hoc prohibition keeping clitics from being conjoined, but the restriction on conjoined clitics emerges naturally from the restrictions on the operation that allows an argument to be realized as a clitic.

In the Middle Welsh example (11) we can see a situation where the pronoun most local to the head it appears to cliticize to appears in its clitic-word shape, not in its full shape, nor is fronting forced, while the second pronoun is unchanged. We will discuss this example further in chapter 5.

11) *nyt* *ymadawn* *inheu (*minheu)* *ac* *ef*
NEG recip.leave.1s 1sC & 3sm
'He and I would not leave each other.' (Pen. MS 4)

Although this appears to be a violation of the Coordinate Structure Constraint, much work on this constraint has shown that the semantic considerations of coordination often outweigh the syntactic ones. Na and Huck (1992) point out that there is a difference between the allowability of extraction for symmetric coordination and asymmetric coordination, and Johannessen (1998) argues further that many of the constraints are due to problems with semantic reconstructability.

12a) *What kind of herbs can you eat and Mary not see?

12b) *What kind of mouse can you eat herbs and Mary not see?

12c) What kind of car can you drink vodka and still drive?

She claims that "extraction out of conjuncts is possible when a link can be established between the conjuncts." These facts make the idea that the coordinate structure constraint prevents extraction of conjuncts by syntactic means to be unlikely. Instead, it is possible that the true constraint is semantic and that the coordination must be able to be found by the semantic operator. In cases like (11) where the linearization remains the same, a semantic operator would have no problem reconstructing the conjunction and it would be fully interpretable. Most extraction is found in VP conjunction, but this seems due to the fact that phrasal extraction/deletion for information structure is the most reconstructible type. NP/DP conjunction is less easily reconstructible, particularly because if deletion, as Johannessen (1998) suggests, is the most common way to create disjoint conjuncts, it is difficult to case mark the conjunct external to ConjP. This is not a problem if delinearization does not occur, as case-marking can still apply and the conjunction is fully interpretable.

In this section we discussed the idea of coordination and what, exactly, a restriction on clitics being coordinated could diagnose. One possibility is that the restriction on coordination is

a result of a phonological constraint. Another possibility is that the restriction results from the syntactic processes that underly cliticization. If deficiency means that clitics and weak pronouns are heads or are incorporated into heads the operation required to position them in their final landing site may be sensitive to Xmin/max status and therefore not apply to ConjPs, which are always Xmax. However, some local extraction out of ConjPs may be possible, in contravention of the Coordinate Structure Constraint. In situations where ConjPs do appear to contain clitics, the clitic is, in fact, not actually inside the ConjP, but in a clitic position local to it. (See Chapter 5 Figure 10 for an illustration of how this could work.)

2.3.2 C-modification

Although in many languages all pronouns are unmodifiable or have heavy restrictions on modification, Cardinaletti & Starke (1999) suggest that deficient pronouns are even less modifiable than strong pronouns. As with conjunction, the existence of a modifier requires the pronoun to have phrasal status. Deficiency seems unlikely to have any effect on this; instead, this is reducible to head status once more.

Toivonen (2003) proposes the concept of the non-projecting head, which is never c-modified and may then appear in different positions from its projecting alternates. However, defining a class of non-projecting heads seems unnecessary. A non-projecting head is an X^{min} element with no features needing to be checked. A projecting head is an X^0 element with unchecked features that will merge other elements and project a phrase. Toivonen's analysis seems to posit pairs of semantically identical lexical items that only differ in terms of whether they are marked 'projecting' or 'non-projecting'. I argue that regardless of whether a head is marked projecting or non-projecting in the numeration, a head that does not merge any other

elements can undergo special syntactic movements that one which is part of a phrase cannot undergo.

When looking at English, a language usually analyzed as containing mostly independent pronouns, the pronouns are very rarely modified, and when they are modified the methods used to do so are the sort used to modify full DPs rather than Ns.

13a) some of us | some of the cats[3] b) *some we | some cats

14a) only we are ready b) only the cats are ready

This sort of data has encouraged the analysis of pronouns as a D element plus a null NP, or monolexical DPs. Since modification of an NP usually occurs inside the D shell, assuming that the D feature is part of the lexical head forbids modification.

In Cardinaletti and Starke's (1999) diagnostics, adverbial type modification (c-modification), such as with 'only', is available for strong pronouns but not deficient pronouns. This is another sign that the quality of deficiency needs to be syntactically defined. However, if we define 'deficiency' as head-status, we can use the same reasoning we did for motivating the restrictions on coordination. If to be realized as a weak or clitic pronoun, the pronoun must be Xmin/max and able to undergo operations specific to min/max elements, then the merger of a c-modifier, by making the projection Xmax, would necessitate realization in its strong form and forbid the application of an operation that would allows the pronoun to be realized as a clitic.

15a) I threw it out. b) *I threw out it

16a) I threw only it out.[4] b) I threw out only it.

3 NB. For this kind of modification we may indeed get a contrast between strong and deficient pronouns, however, this sort of contrast falls under the diagnostic 'object of a preposition.'

4 Snow (personal communication) points out that 'that' is much preferred to 'it' in such instances. If objective 'it' is truly clitic like, then this is unsurprising and C-modification cannot apply to it at all because it cannot appear as 'it' when not immediately local to its verbal host.

As we can see in (15) and (16), the restrictions on the appearance of the weak pronouon 'it' are rescinded when 'it' is modified and therefore phrasal. Although there is no phonological difference between the deficient and non-deficient forms of 'it' in English, we can see the differences in behavior of a clitic-type realization of 'it' and a non clitic-type realization in the syntax.

2.3.3 Base/Theta Position

One of the clearest indications that there are indeed sets of pronouns with different syntax is that the overt positions in which they may appear are different. In (1), repeated below as (17), we saw that *essa* contrasts with *leis* in that it can only appear initially. *Leis*, however, appears in the same positions the full DP 'Maria' can.

17) *essa/leis/Maria* *forse* *l'ha* *fatto* **essa/leis/Maria* *da.sola*
it/she/Mary maybe it-has done it/she/Mary alone
'Maybe (it/she/Mary) has done it alone'

This aligns with what we know of clitic-words, as they are defined by their tendency to appear in different positions from their fully phrasal alternates. In my proposal, the syntactic quality that makes special clitics 'special' is the same as what makes weak pronouns unable to appear in non-derived DP/NP positions.

Cardinaletti and Starke (1999) propose that only strong pronouns can appear in the base position for DPs, and presumably other positions where full DPs are allowed. Deficient pronouns—weak and clitic—must appear elsewhere. This aligns with the idea that we are looking at syntactic clitichood, because clitic-words—the set of syntactic clitics containing special clitics and linked words—are recognized by the fact that they do not appear in the same positions where equivalent DPs appear.

This leads logically to two possible interpretations: 1. Weak pronouns and clitics are initially merged in a non-theta marked position, or 2. Weak pronouns and clitics must be moved out of a theta-marked position in order to be realized in their weak or clitic forms.

In previous sections we have discussed the analysis of clitics as heads and suggested that one possibility is that, counter to Cardinaletti & Starke (1999), weak pronouns are also heads. Naturally, since theta-marked positions are not head positions, if clitics and weak pronouns are heads, they cannot appear in theta-marked positions. However, if we assume that clitic-words can be theta-marked arguments, we can simply propose that they must undergo a process of cliticization which gives them head status, possibly by incorporation with a head, in order to be realized in their clitic-shape. This cliticization process necessitates the fact that base or theta position will not be their final landing site.

2.3.4 Dislocation and Isolation, Preverbal in V2

One possibility for the ban on deficient pronouns in A' position is that focused elements must be able to bear stress, and phonologically weak elements cannot be stressed. However, that possibility fails when we recall that there is no connection between syntactic deficiency and phonological deficiency. Stress does not forbid an element from being a clitic-word. And A' movement is too syntactic to be explained away by phonological constraints.

Alternatively, we could argue that A’ movement is purely phrasal movement and cannot apply to heads. If we assume that both clitics and weak pronouns merge initially as heads, this is satisfying. However, if they are merged as Xmin/max elements in theta-position, then they, like strong pronouns, are phrases, since there is no minimal head complexity to be a phrase (Panagiotidis 2002). And thus they should be able to move into A' positions.

However, thinking back to the previous analysis, we can say that for an element to be realized as a clitic it must be positioned in its final landing site via an operation that can only apply to heads or Xmin/max items. If it is positioned in the CP via A' movement, we may theorize that it cannot then undergo the operation that will allow it to be realized as a clitic. For example, if we take French *je* and *moi*, we know that in isolation we only ever see *moi*. As there is no possible clitic host for the first person singular pronoun to cliticize to, the operation cannot occur and the only possible outcome is *moi.*

2.3.5 Objects of Prepositions

Certain languages support the idea that a clitic object of a preposition initially merges as an argument and then fuses to the prepositional head in some way. For example, Old English, usually follows the pattern P NP, except for with pronouns, where it is Pronoun-P.

18a) *him tō*
'to him'

18b) t*ō Īrlande*
'to Ireland'

Other languages contain conjugated prepositions, which are likely derived from cliticized prepositional objects. Stalmaszczyk (2007) explains the origin of Celtic conjugated pronouns as a process of fusing the preposition with the pronoun. The full pronoun became weak and unstressed, took the preposition as its host, and subsequently became affixed to the preposition. Phonologically, this process is straightforward, but syntactically, it assumes that the object must link to its prepositional host. A morphological clitic is exactly the sort of element we expect to be able to link to a head, such as a preposition. If clitics cannot be objects of pronouns, the process of becoming a conjugating preposition should be impossible.

If we accept the idea that objects of prepositions are allowed to be deficient, being able to be the object of a preposition is no longer a useful diagnostic. However, assuming the approach first proposed in the section on coordination, I suggest that the operation which takes a pronominal object of a preposition and allows it to be realized as a clitic also moves it out of the base position in which it merges.

2.4 Referentiality

After coordination, the second major aspect of Cardinaletti and Starke's (1999) basic principle distinguishing between deficient and strong pronouns is that of referentiality. In their analysis, the difference between strong, weak and clitic pronouns is one of phrasal complexity based on the number of projections.

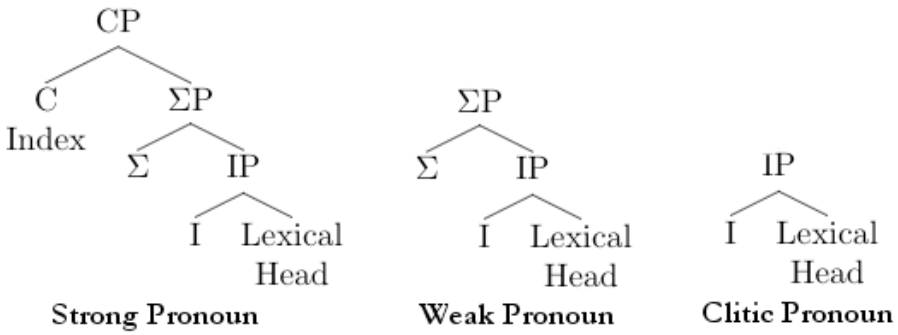

Figure 1. Cardinaletti and Starke's (1999) Pronoun Types

The projection that makes strong pronouns strong—the pronominal CP—contains a feature directly linked to interpretation. This feature requires strong pronouns to have a range restriction. Thus, when there is no antecedent to restrict the range, a default range is inserted, +human. This correlation between strong pronouns and referentiality motivates further diagnostics, in particular the assertion that weak pronouns can be used as an expletive and be the subject of an impersonal verb, but strong ones cannot.

One problem with this theory is the basic assumption that pronoun types differ in regard to their phrasal projections. Panagiotidis (2002) rejects the idea of clitics being different from full pronouns because of syntactic complexity, and instead argues that clitics must have the full phrasal structure of a DP. This is due to the idea that a clitic carries just as many φ features as a pronoun. If each of these types of φ features are realized on their own projection, it is only parsimonious in a learning model to argue that if a pronoun requires three functional heads to bear these features, a clitic also requires three heads to bear these features.

Thus, according to Panagiotidis (2002), all pronouns have the same structure. In it, the D head bears definiteness and deictic person features. Following Halle (1997), person features are identified as ±Agent of the Speech Event and ±Participant in the Speech Event. First person is both +ASE and +PSE, while 2nd is –ASE +PSE, and 3rd is –ASE –PSE. The Num head bears number features. And the N itself bears gender features, since they are lexically specified.

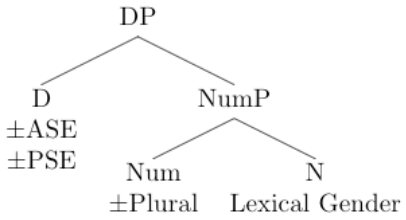

Figure 2. Structure of a Pronoun

The argument that the person features and the number features are marked on different functional heads relies on the fact that the +ASE feature when combined with a +plural Num head, can signify either multiple agents of the speech event, Greek chorus style, or one person speaking for a group that he or she is a member of. This optional distributivity suggests that the features are independent, and to be fully independent, they should be on separate heads.

If we used this model as our base and then pruned the tree as Cardinaletti and Starke (1999) do, we would begin in the same way, by first removing the referential features.

Panagiotidis (2002) also correlates the highest projection of the complex pronoun with referentiality, but his referentiality is deictic referentiality, which describes how the pronoun relates to the speech event. A pronoun without the highest projection—which are weak pronouns in Cardinaletti and Starke's model—would lack deictic referentiality, definiteness, and person, and therefore tend to be non-referential. A pronoun without the two higher projections—clitics in the Cardinaletti and Starke model—would encode nothing but gender. 1st and 2nd person clitics should not exist, and neither should any singular/plural distinction.

Using Panagiotidis (2002) brings up an important question about the status of deficient pronouns. When we look for deficient pronouns, do we expect to find a full paradigm? If we do, then, as person features are encoded on the D-head, they cannot lack this projection. Clitics also, as they frequently vary for all forms of person and number, must have all of these projections. In contrast, weakly referential pronouns, such as expletives and subjects of impersonal verbs, do not come in all of these varieties.

Expletives and subjects of impersonal verbs are standardly third person singular. Since Bloomfield (1938) it has often been proposed that third person is the lack of person. In the Halle (1997) system this is maintained. The features encoding first and second person are ±Agent of the Speech Event and ±Participant in the Speech Event and 3rd person is –ASE –PSE. All other features on the D head, such as deictic referentiality and definiteness would also be minus (-) features in an expletive or impersonal context. Thus a 3rd person pronoun with a D head (-ASE -PSE) is essentially identical to one where the D head has been pruned (no ASE or PSE features available). Since singular is encoded as -plural, the Num head can also be pruned, leaving us with a 3rd person singular pronoun that only consists of a lexical head containing lexical gender features.

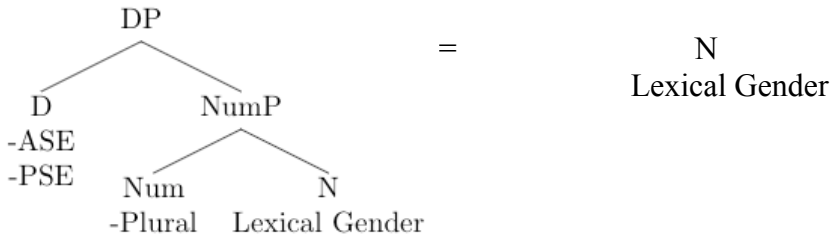

Figure 3. Third Person Singular Expletive Pronouns as Pruned Trees

English 'it' supports this theory, as it is 3rd person singular with neuter lexical gender, and can be used as an expletive. Modern Welsh shows that the gender features are indeed lexical, as expletives use *hi*, the third person singular feminine pronoun (King 2003).

19) *Bydd hi'n rhy hwyr erbyn 'ny*
be 3sf'P too late by then
'It'll be too late by then.'

The development of definiteness in Amharic also supports this hypothesis. Rubin (2010) shows that the Amharic definite markers were derived from the third person singular masculine possessive suffix *-u*. Here also, the third person singular, being unmarked for so many features, is the one most likely to lose its referentiality. In this case, it is completely non-referential, and has simply become the +definite D head.[5]

20) a. *zaf* 'a tree'
b. *zaf-u* 'his tree'
c. *zaf-u* 'the tree'

Should we then restrict deficient pronouns, as they are supposed to be weakly referential, to being only realized in the third person singular? Cardinaletti and Starke (1999) said nothing about deficient pronouns only being third person singular. Since they present weak pronouns as the third option to the strong/clitic contrast, it would only be logical that they, like strong and

5 Note that this brings into question Panagiotidis's (2002) assumption that ±ASE and ±PSE are on the D head. Calling it the D head seems to be an *ad hoc* choice, as he does not locate a D feature there. ±D may in fact be on the lexical head or a lower projection.

clitic pronouns have the ability to come in full paradigms. This means, following Panagiotidis (2002), that they have a full set of feature-bearing heads (±ASE, ±PSE, ±Plural). These facts expose fundamental problems with the diagnostic of weak referentiality.

A second problem with referentiality is Cardinaletti & Starke's (1999) assertion that deficient pronouns are restricted to referring to referents that are already prominent in the discourse. This is logical for phonologically weak elements, since they do not bear a word node that can be stressed, they would not be used when something that needs to focused is being referred to. However, we do in fact find contrastively stressed deficient pronouns in Cardinaletti and Starke's (1999) Quebecois example.

21) *A:* *Je* *te* *casserai* *la* *gueule!*
I you will.break the face
'I will break your face!'
B: *Ah ouais?* *tu* *veux* *dire* *que* *je* ***TE*** *casserai la* *gueule!*
oh yeah? you want to.say that I **YOU** break the face!
'Oh yeah? You mean that I'm gonna break *your* face!'

Contrastive focus of pronouns tends to be used to provide a switch-reference function, indicating that the referent is not the most prominent one in the discourse. Cardinaletti & Starke (1999) suggest that contrastive focus is only allowable if the entity is already mentioned in the discourse. But, of course, pronouns in general tend to be restricted to this, unless they are being used with ostention (pointing), and most deficient pronouns cannot be accompanied by deictic pointing.

The association between discourse prominence and strong versus deficient pronouns is not consistent. Many linguists have assumed a cline of discourse prominence, often simplified to something like the cline below.

High salience				**Low salience**
Zero	Clitic	Weak	Pronoun	Pronoun+

As such, we might expect strong pronouns to refer to weakly prominent entities and deficient pronouns to refer to more prominent entities. But in many languages with sets of pronouns that are distinguished by their syntactic distribution, we do not find any contrast in referentiality. Instead, languages where there are multiple sets of pronouns in free variation with regards to their syntactic positions, we see a contrast in referentiality emerge.

In Estonian, there are long and short forms of the pronouns that do not differ syntactically, but contain an indication of contrast.

22) *{Ta/Tema}* *hakkas* *naerma.* (Estonian)
{3sS/3sL} started laugh
'(S)he/(S)HE started to laugh' (Kaiser 2010)

It is unsurprising that a long form contrastive pronoun in free variation with a shorter non-contrastive form would not be used as an expletive or appear in other contexts where they are non-referential. The contrastive feature itself requires a referential anaphor.

However, sets of pronouns that appear in differing syntactic contexts are not in free variation and need not contain a contrastive feature. Even if syntactically strong pronouns had a contrastive interpretation and syntactically deficient pronouns lacked this, the connection between contrastiveness and strength of referentiality is likely to be epiphenomenal. This association should be derived via patterns explainable by other features of strong and deficient pronouns. There is no necessary link between the syntactic status of a pronoun and referentiality. Non-contrastive third person singular pronouns, due to their impoverished feature matrix, are the true weakly referential pronouns.

Another problem with the Cardinaletti and Starke (1999) approach to referentiality is the +human default. First of all, this is another feature that only applies to third person pronouns, since first and second person entities, as they are participants in the speech event, are assumed to

be at least sentient, if not necessarily human. Addressing an inanimate object with a second person pronoun coerces a sense of animacy.

23) You stupid chair!

Cardinaletti & Starke (1999) assume demonstratives are the default -human alternative to third person +human pronouns. However, many third person pronouns originate from demonstratives or are identical to them. Because of this, the origin of the +human requirement is somewhat obscure.

Cardinaletti & Starke (1999) point out that English provides an example of coordinated pronouns referring to non-human entities. Coordinated *them* and *they* may refer to non-human entities.

24) I showed them and the others to you.

This is against their putative universal that coordinated personal pronouns cannot refer to non-human entities. They propose that this is because *they* and *them* are morphologically similar to demonstratives, like Scandinavian languages, where the third person pronouns are actually demonstratives (-human) and not +human restricted like true personal pronouns.

The idea that some third person pronouns are actually not third person pronouns even if they are not identical to demonstratives, etc, shows how the +human restriction on conjoined pronouns is incoherent. Instead, it seems most probable that restrictions on what third person pronouns can refer to are language specific and shaped by the other features marked on third person pronouns and by the set of competitors.

In this section we discussed the question of whether referentiality and pronoun type are related. When we looked at expletives and subjects of impersonal verbs, it seemed that the correlation between weak pronounhood and these positions is epiphenomenal. The +human

restriction on conjoined personal pronouns also seems unlikely to be related to the syntactic type of the pronoun.

3 Stepping Back

When we look back at these diagnostics, we can see that though some of them are less than reliable, others do seem to target a distinct syntactic object. As Bošković (2001) points out, there are many approaches to the analysis of clitics: phonological, morphological, and syntactic. In this dissertation I explore the idea that when we have a clear idea of what clitic-words are, we will be able to see how their behavior is realized in each module. To do this, we have looked at diagnostics involving each module independently.

Our phonological diagnostics are intended to distinguish between different types of clitic words. Assuming Anderson (2005), phonological clitics lack a phonological word node, requiring them to find a host on which to lean. However, I will interrogate the concept of a phonological clitic further in chapter 3.

We rejected morphological deficiency as a diagnostic. Its interaction with phonologically and syntactically grounded diagnostics is unpredictable, and there is no reliable way to predict from morphological shape whether the element is a strong or deficient clitic.

The multiple syntactic deficiencies, however, are useful for diagnosing the qualities we predict a clitic-word element to have. The theory that emerged is that a deficient element is special in that it can undergo an operation that allows it to end up in a clitic-type position/having the status of a head. As it seems reasonable to suggest that this operation applies to Xmin/max or other head-like objects, it is potentially linked to head-movement. The diagnostics seem to point to this analysis, based on the other principles that are relevant to the syntactic context. For the

moment, I will refer to this operation as 'cliticization' and assume that it allows an Xmin/max element to incorporate with a head.

For coordination, we can expect a certain amount of cross linguistic variation. Full ConjPs cannot undergo cliticization, because a full phrase cannot be fused to a head. But a part of a ConjP may be able to do this, as long as it does not break linearization—maintaining a reduced form of the semantically motivated Coordinate Structure Constraint—which allows for clitics to be conjoined in a restricted set of instances.

For c-modification we followed the same reasoning. If an element is modified, it becomes part of a phrase, and once in a phrase, it cannot undergo cliticization.

For base and theta position, the reasoning is simply that these are an initial-merger position and to be realized as a clitic, the element must undergo cliticization, which moves them out of their base position.

For the object of a preposition, we have the same situation. We do not expect clitic-words to appear in the base merged position as object of a preposition. But if they have undergone cliticization, to the P head, perhaps, it is a possible clitic position.

For dislocation, isolation etc, we can also assume that cliticization does not result in an A' landing site. Perhaps also, if an element has undergone cliticization, it cannot be moved out of this position through A' movement. Pre-verbal position in V2 also falls into this category, as it is usually an A' position. If there are clitics preverbally in V2, their final position should not be identical to a full NP/DP alternative.

All of these diagnostics do seem to pinpoint an element that is distinct syntactically from full NP/DP elements, an element that can undergo the process of cliticization.

Referentiality, though intriguing and complex, is not a very useful diagnostic for pronoun type, and is, I argue, only tangentially related to whether an element is a clitic-word or not. The idea of a +human feature in the pronoun has been superseded by other theories of internal pronoun structure, and an expletive may be either a clitic-word or an independent pronoun, but is always going to be 3rd person singular.

In sum, when we look at these diagnostics, we can propose a chart.

Table 2. Diagnostic Chart

	Word	Simple Clitic	Linked Word	Special Clitic
Independent Stress	+	-	+	-
Can be Bisyllabic	+	-	+	-
Coordination, C-mod	+	?	restricted	-
Base/Theta position	+	+	-	-
Dislocation, Isolation	+	-	-	-
Pre-Verbal in V2	+	+	-	-
Object of Prep	+	+	+	+
Weak Referentiality	+	+	+	+

Can we use these diagnostics to pick out a specific syntactic entity? The qualities of a linked word can be summed up in two points:

1) Not in all normal DP positions – no base/theta position, no A-bar movement, restrictions on conjunction, c-modification

2) Full phonological phrase – bisyllabic, bears word stress, may be a distinctly reduced alternative of a strong form

These aspects are what we expect of a linked word: a restricted syntactic distribution, and full word-type phonology. The principles discussed by Cardinaletti & Starke (1999) do, on the

whole, line up with my four way typology and offer some hints as to what it means to be syntactically deficient.

Table 1. Four Lexical Types

	Phonological Word	**Phonological Clitic**
Syntactic Word	Independent Word	Simple Clitic
Syntactic Clitic	Linked Word	Special Clitic

In the next chapter I will test these diagnostics on Middle Welsh, a language which contains six sets of pronouns that differ syntactically, semantically and phonologically. I will see if these diagnostics work to differentiate the classes of pronouns, making clear predictions about strong, weak and clitic pronouns, and I will further advance my theory of the syntactic shape of the clitic-word and the process of cliticization.

CHAPTER 2

HOW DO YOU SOLVE A PROBLEM LIKE MIDDLE WELSH?

This chapter deals with the typology of lexical types (independent words/linked words/special clitics/simple clitics) as applied to the pronouns of Middle Welsh. It tests the diagnostics reformulated in chapter 1, comparing the predictions made by Cardinaletti & Starke (1999) and the predictions made based on the assumption that clitic-words are heads or linked to heads during the syntactic derivation. The discussion shows that the reformulated diagnostics serve well to predict the patterns found in the Middle Welsh data.

The previous chapter suggested that a typology of lexical types should be derivable from independent syntactic and phonological primitives. This chapter provides evidence for this idea, and serves to lay out the desired features of a formal definition of clitichood. This is intended to ground the formal analysis proposed in chapter 3, where I will show how with a few basic assumptions we can derive the distribution of lexical types explored here.

The discussion in this and the following chapter are based on data drawn from various Middle Welsh texts, primarily *Pedeir Keinc y Mabinogi (PKM)*—source citations from the Ifor Williams edition—*The White Book Mabinogion (WM), The History of Gruffydd ap Cynan (HGrC), Llyfr Taliesin (Pen. MS 2),* and *Gereint (Pen. MS 4)*. Now that a searchable version of the 13th century corpus has emerged, I will include additional data from Peniarth 44. Any unattributed examples are from Evans (1964). I will compare this data with Modern Welsh examples, pulled from the Siarad Corpus and other papers, with the Pembrokshire dialect of Welsh and Breton as represented in Awbery (1988).

Middle Welsh is particularly useful for our analysis of pronominal word-types because subject and object pronouns come in six different types. These six types vary in their phonological weight, syntactic distribution, and information-structural meaning. Though many languages have a clitic/non-clitic contrast, few have a third syntactically distinct category. The separation of information-structural properties is also very useful to test Cardinaletti & Starke's (1999) prediction that strong pronouns are considered to be necessarily discourse salient, and thus be the only possible bearers of focus, while weak pronouns cannot bear focus and are not discourse salient. In Middle Welsh, morphologically distinct pronouns indicate discourse relations, such as contrastive focus. These morphologically complex forms can appear in contexts we expect either independent or weak pronouns to appear in. Therefore focus does not have to be identified using contextual or prosodic cues, and the link—or lack of link—between focus and pronoun type can be seen more clearly.

Modern Welsh, though also rich in pronouns, lacks a few of the interesting contrasts that make Middle Welsh ideal for our analysis. Although Modern Welsh maintains the independent/affixed distinction—even more richly in some cases—conjunctive forms are becoming rare, reduplicated forms have merged with independent forms, and the infixed pronouns are only a lingering artifact in formal speech. However, in nearly all its parts, this analysis is equally applicable to Modern Welsh.

What we find when we apply the diagnostics is unsurprising, Middle Welsh 'independent pronouns' act as we expect independent words to act, appearing freely in DP/NP positions and able to bear stress or be focused. Middle Welsh 'infixed pronouns' fit the diagnostics for special clitics, appearing in restricted areas of the syntax in phonologically minimal forms. And Middle Welsh 'affixed pronouns' pattern in the ways linked words are predicted to, appearing in

restricted locations but potentially having bisyllabic word-forms and bearing stress. Many elements in Middle Welsh appear to be simple clitics or leaners, phonologically reduced forms of a full word, such as determiners *yr* being realized as *y'* or *'r,* their forms varying based on the surrounding phonological contexts. Genitive pronouns may be analyzed as simple clitics, but as they also pattern very differently from full DP/NP possessors, I will save their analysis for the fuller syntactic approach in chapter 5.

In the previous chapter we took a close look at the diagnostics proposed by Cardinaletti & Starke (1999) for their three-pronged typology of pronouns: Strong, Weak, and Clitic. In investigating this, we argued for a separation of phonological factors and syntactic factors. Our four-way typology replaces the three-way contrast, using two binary properties to differentiate each type:

1) Is the element phonologically full or phonologically minimal?

2) Does the element appear in the syntactic contexts expected for other elements of its c-selectional category or not?

Table 1. Four Lexical Types

	Phonological Word	**Phonological Clitic**
Syntactic Word	Independent Word	Simple Clitic
Syntactic Clitic	Linked Word	Special Clitic

Each of these types is predicted to behave in a consistent way.

Phonological words can bear their own stress and are not restricted in number of syllables. In contrast, phonological clitics must rely on external phonological support to be pronounced, and are only stressed as if they happen to be in the prominent position for the larger prosodic word stress domain.

Syntactic words are phrasal, and therefore undergo A' movement, appear in theta positions, can be freely conjoined and modified, etc.. Syntactic clitics, however, are restricted to specific non-NP positions and cannot appear in alternative positions even for discourse purposes.

Using these principles we were able to reevaluate Cardinaletti & Starke's (1999) set of diagnostics and come up with reasonably specific predictions for each of them. We have collected these predictions into a handy chart.

Table 2. Diagnostic Chart

	Word	Simple Clitic	Linked Word	Special Clitic
Independent Stress	+	-	+	-
Can be Bisyllabic	+	-	+	-
Coordination, C-mod	+	?	restricted	-
Base/Theta position	+	+	-	-
Dislocation, Isolation	+	-	-	-
Pre-Verbal in V2	+	+	-	-
Object of Prep	+	+	+	+
Weak Referentiality	+	+	+	+

This chapter tests these diagnostics on Middle Welsh to see if they reliably pick out distinct classes of elements.

1 Middle Welsh Pronouns: The Six Types

Middle Welsh is a language with many pronoun contrasts.

Table 3. Middle Welsh Pronouns

	1s	**2s**	**3sm**	**3sf**	**1p**	**2p**	**3p**
Independent (pre-verbal subjects, objects of non-conjugating prepositions, emphatic DOs)							
Simple	*mi*	*ti*	*ef*	*hi*	*ni*	*chwi*	*wy, wynt*
Conjunctive —indicates 'also' or 'in contrast'	*minheu*	*titheu*	*ynteu*	*hitheu*	*ninneu*	*chwitheu*	*wynteu*
Reduplicated —emphatic	*miuí*	*tidí*	*efó*	*hihí*	*niní*	*chwichwí*	*wyntwy*
Affixed (post-verbal subjects, also with conjugated prepositions and possessed noun phrases)							
Simple	*ui, uy, e, i*	*di, dy, de, te, ti*	*ef*	*hi*	*ni*	*chwi*	*wy, wynt*
Conjunctive	*inheu*	*ditheu, titheu*	*ynteu*	*hitheu*	*ninheu*	*chwitheu*	*wynteu*
Infixed (second position direct object markers)							
	'm	*'th*	*'i, 'e, 's*	*'i, 'e*	*'n*	*'ch*	*'i, 'e*
Genitive (pre-nominal possessives, DOs of verbal nouns)							
Substantive	*meu*	*teu*	*eiddaw*	*eiddi*	*einym*	*einwch*	*eiddunt*
Prefixed	*vy(n)*	*dy*	*y (L)*	*y (A)*	*an, yn*	*awch, ych, eich*	*eu, y (L), yw*
Infixed	*‘m*	*‘th*	*‘y*	*‘y, ‘e*	*‘n*	*‘ch*	*‘y, ‘e*

These contrasts reflect differences in meaning, differences in case, and differences in syntactic distribution.

Modern Welsh looks quite similar, and in fact makes some of the major distinctions more clear.

Table 4. Modern Welsh Pronouns

	1s	**2s**	**3sm**	**3sf**	**1p**	**2p**	**3p**
Independent	*fi*	*ti, di*	*fe, fo*	*hi*	*ni*	*chi*	*nhw*
Conjunctive	*minnau/ innau*	*tithau*	*yntau (fyntau)*	*hithau*	*ninnau*	*chithau*	*hwythau (nhwythau)*
Affixed	*i*	*ti, di*	*e, o*	*hi*	*ni*	*chi*	*nhw*
Genitive	*fy*	*dy*	*ei*	*ei*	*ein*	*eich*	*eu*

In particular, the contrast between the independent and affixed paradigms has been questioned in Middle Welsh, as their only clear and obvious contrast appears in the first person singular. However, in Modern Welsh, phonological changes have further differentiated these two paradigms, making the third person singular masculine in both the northern and southern dialects (northern using *o* and southern using *e*) also distinct in the same contexts we expect to see affixed forms.

1.1 Independent Pronouns

The independent pronouns have three semantic contrasts, simple for default, conjunctive for discourse prominence, and reduplicating for emphasis. Although the difference between conjunctive and reduplicating is often discussed as a productive split, in the period of Middle Welsh we're looking at, reduplicated pronouns are infrequently used, mainly appearing within the dialogue of folkloric heroes. This suggests that either they are a part of speech, or, more likely, they represent a slight archaizing feature. As they are soon to become absorbed into the independent paradigm we will not focus on them too much.

Simple

25a) *Mi* *a* *gyskeis*
1sS P sleep.1sPRET
'I slept' (Pwyll 23.3-4)

Conjunctive

25b) *Minheu a baraf, cany ellir heb hynny, dygyuori*
1sC P cause if.not able without that mustering
'I will cause, since it cannot be accomplished without that, a mustering' (Math 68.11-13)

Reduplicating

25c) *Myui a duunaf a thi yn llawen*
1sR P agree.1s with 2sI P happy
'*I'll* go along with you, gladly' (Pwyll 23.13)

As subjects, they appear in initial position in the sentence, as in (25) a, b and c. I will refer to this as the pre-verbal position, though there is also a particle—analyzed by Harbert (personal communication) as a focus head—between the independent pronoun and the verb. The basic sentence type in Middle Welsh is a V2 structure, following the pattern: XP | focus particle (P) | Tensed verb initial predicate.

As direct objects they appear after the verb, like (26), likely remaining low in the vP, and undergoing the same direct object mutation *(mi > ui)* as full NP direct objects.

26a) *mi a wnaf na chaffo ef uiui uyth*
1sS P do.1s negC get 3sS 1sR ever
'I will make it so he will never get me' (Pwyll 14.22)

26b) *dygwch ui o-dyma*
take-IMP 1sS (*mi*) from-here
'take me from here' (Pwyll 6.3)

26c) *dygwch uessur uyn troet*
take-IMP measure (*messur*) 1sG foot
'take a measure of my foot' (Math 80.1)

They also appear as the object of regular prepositions, but not conjugating prepositions, as in (27).

27a) *rodi i* ***minheu***
giveVN to **1sC**
'give me' (Manawydan 50.25)

27b) **amdanaf minheu*
about.1s 1sC

1.2 Affixed Pronouns

Affixed pronouns, in contrast, when representing the subject of the sentence appear after a tensed, agreeing verb. They are not used to represent direct objects.

28) *a* *wn**af*** ***i***
RP do.1s 1sA
'I shall do' (Pwyll 3.22)

They mark the object of conjugating prepositions.

29) *gen**hyf*** ***i***
with.1s 1sA
'with me' (Branwen 41.17)

Affixed pronouns can appear after a possessed noun, doubling the person and number of the possessive pronoun, whether the possessive pronoun is in its full (30a) or infixed (30b) form.

30a) **u*y*** *mab* ***i***
1sG son 1sA
'my son'

30b) *a'**m*** *mab* ***i***
P'1sG son 1sA
'my son'

The affixed pronoun cannot double a full NP/DP possessor.

31) **mab* *brenhin* *ef*
son lord 3smA

In general we can say that affixed pronouns appear following something else that is identically φ-marked. They cannot appear in a position that is not local to another morpheme marking the same φ-specifications. There must be an agreement relationship between these two realizations of φ.

In affixed pronoun position, we have three semantic contrasts, simple (32), conjunct (33), and null (34). Affixed position appears to be the only position where pro-drop is available. I will discuss whether this is actually a *pro* argument in all positions that could potentially hold an affixed pronoun in later chapters.

Affixed Simple

32)	*ny*	*madeuaf*	*i*	*uyg*	*kwn*
	NEG	forsake.1s	1sA	1sGP	dogs

'I will not forsake my dogs.' (Manawydan 56.5-6)

Affixed Conjunctive

33)	*ni*	*chyskeis*	*inheu*	*gyt*	*a*	*thi*
	NEG	sleep.1sPRET	1sAC	together	with	2sS

'I did not sleep with you.' (Pwyll 7.25-26)

No Pronoun

34)	*ny*	*weleis*	*ansyberwyt*	*uwy*	*ar*	*wr*
	NEG	see.1sPRET	arrogance	more	on	man

'I've never seen more arrogance in a man.' (Pwyll 2.14-15)

1.3 Infixed Pronouns

Infixed forms are the usual way of marking direct objects. They are reliably in second position in the clause. Rarely, in older texts, they mark indirect objects.

35)	*minheu*	*a'e*	*kymmeraf*
	1sC	RP'3sI	accept.1s

'I will accept it.' (Pwyll 17.25-26)

If a direct object is emphatic or contrastive or the object of an imperative, it does not appear as an infixed pronoun, but as an independent pronoun, as we saw in (26a).

26a)	*mi*	*a*	*wnaf*	*na*	*chaffo*	*ef*	*uiui*	*uyth*
	1sS	P	do.1s	negC	get	3sS	1sR	ever

'I will make it so he will never get me' (Pwyll 14.22)

1.4 Predictions

When we take a broad look at these three major categories of pronouns we can see that each one seems to fit in our taxonomy differently. (We will put off any analysis of the various types of genitive pronouns until chapter 5.)

Table 1. Four Lexical Types

	Phonological Word	**Phonological Clitic**
Syntactic Word	Independent Word	Simple Clitic
Syntactic Clitic	Linked Word	Special Clitic

Infixed Pronouns: These appear in 2nd position, which is cross-linguistically a prime position for Zwicky and Pullum's (1983) special clitics. They often lack a syllable nucleus, and rely on a host. Thus they act like special clitics in both phonological and syntactic ways.

Independent Pronouns: Conjunctive and reduplicating pronouns are bisyllabic. The simple ones also appear in places which hold stressed elements, and thus are likely stressed themselves. Syntactically, they appear in places we expect full phrasal projections. These pattern like words in both phonological and syntactic ways.

Affixed Pronouns: The set of affixed pronouns contains bisyllabic elements, and they seem to be able to bear at least secondary stress. However, unlike independent pronouns, their syntactic position is restricted to positions local to another element bearing matching φ-features. Though being local to a φ-bearing element is an odd restriction, it circumscribes the syntactic distribution and counts as a syntactic restriction. Syntactic restrictedness with a full phonological form is what we expect for linked words.

In the following sections I will use the diagnostics discussed previously to test these predictions.

2 Phonological Diagnostics: Bisyllabicity & Stress

As described in our diagnostic chart, we expect phonologically full elements such as words and linked words to be able to bear stress and be bisyllabic. Phonologically minimal elements, such as simple and special clitics, should be able to do neither. If my predictions are correct, independent and affixed pronouns should be able to bear stress and be bisyllabic, while infixed pronouns should not.

From the charts above we can see that although simple forms tend to be monosyllabic, both independent and affixed pronouns have an emphatic/contrastive form called 'conjunctive', which is bisyllabic. Infixed pronouns, however, often do not even have a syllabic nucleus. This is consistent with our predictions that independent and affixed pronouns are phonologically full, while infixed pronouns are phonologically deficient.

Stress is a more difficult diagnostic to employ. Pronouns, and other closed-class words are often extrametrical or default unstressed. And Middle Welsh stress is complicated even with lexical words.

Jackson (1953) showed that Middle Welsh has penultimate stress, having shifted back one segment from word final stress during the Old Welsh period. However, although stress moved, final syllables retained the quality of vowel length. Albright (1996), in his endeavor to explain this shift, proposed the constraint Rhythm: "A stressed element must be followed by an unstressed element," and ranked it very high. It interacts with Align-Head-Right to produce the modern Welsh metrical system.

For the independent pronouns, this constraint ranking predicts that monosyllabic simple pronouns in initial position will be stressed.

27) ú u ú u
Mi a rodaf
1sS RP give.1s
'I give'

Conjunctive pronouns and reduplicated pronouns, both being bisyllabic, are large enough to act as their own stress domains. Conjunctive ones will be stressed on the first syllable as predicted by Albright's system, especially when sentence initial. Reduplicated pronouns are known to be stressed on the second syllable (Evans 1977). This indicates that they are phonological words: -PC elements.

For affixed pronouns Hannahs (2013) argues that in Modern Welsh, the post verbal subjects are not part of the stress computation. In (28) we can see that although foot binarity would place the stresses on *gwe* and then *hi*, the stress remains on the full NP *sêr*.

28) *gwelodd hi sêr* ['gwelɔð hi 'sɛːr]
see.3s 3sf stars
'she saw stars' (Temple 2012)

This leaves two options, either that affixed pronouns are their own word-stress domain, or that they are extrametrical. In most cases, they would be produced without stress, but as there can be bisyllabic conjunctive forms in this position, it would be surprising if no stress at all appeared in this position.

29) x x
x x x
(fa)swn innau (he)fyd
be.1s.subj 1sCA also
'I would have as well' (Siarad Corpus, Davies 6:409)

In the spoken Welsh Siarad corpus, instances of *innau*, the modern reflex of *inheu*, can be prominent. In the recording of (34), all of the content words are very reduced on their initial

syllable, which is the one that is supposed to be stress bearing. If this pattern extends to *innau*, then the non-prominent *in* should be stressed, and the long *nau*, though prominent, is unstressed. The fact that the Modern Welsh affixed pronouns do not interact with the stress assignment may indicate that in Middle Welsh they were not simply left out of the prosodic calculations, but made up their own prosodic unit. Because of this, I argue that Middle Welsh affixed pronouns are phonologically full words.

Infixed pronouns often lack a syllabic nucleus and thus cannot be stressed. The hosting element is frequently the unaccented particle *a* (used in nearly all declarative sentences as well as as an interrogative and relative particle), which, itself, does not carry stress. Other particles, such as *y, yt, ry, ny, na* are also unlikely to be stress bearing, but can still appear with the infixed pronoun attached. In these cases, we can say that rather than 'hosted' the infixed pronouns are 'merged' with these other unstressed elements.

They can also be hosted by longer or more lexical elements, such as *neu, kany, ony, gwedy, pan, tra, yny, can, kyt, o,* and *pei.* When following *pan, tra, kyt, can,* and *pei*, they can be found in a fully syllabic form (see Evans 1977).

30a) *yr pan* *yth* *weleis* *gyntaf*
since 2s see.1sPRET first
'since I saw thee first.' (WM 156.36)

30b) *hyt tra* *ym* *gatter* *yn uyw*
as.long.as 1s get.IMPRS in life
'so long as I am left alive' (WM 479.6)

30c) *pei* *ass* *archut* *yr* *meityn*
if.CF 3s ask.2s DET morning
'hadst thou asked it in the morning' (Pwyll 12.9)

It is most probable that these lexical hosts are stressed. The following infixed pronoun appears immediately before the verb, where we often expect an unstressed particle. Therefore it is likely that even when syllabic, the infixed pronouns are unstressed.

From the data above, we can see that infixed pronouns do not have the syntactic distribution we expect for affixes. They attach to a variety of hosts, an indication, according to Zwicky (1977), that they must be positioned in the syntax, after morphological word formation. However, they do have many of the phonological qualities we expect of affixes. More will be made of this observation in chapter 3.

An additional indication that infixed pronouns cannot be stressed is that reduplicated pronouns, which are lexically stressed, cannot appear in second position. Any stressed or emphasized direct object pronoun appears in base position and not in second position.

In sum, the phonological evidence of Middle Welsh is consistent with our predictions for which word-types the sets of pronouns are. Both independent and affixed have bisyllabic forms and can be argued to bear stress as expected for Phonological Words. Infixed pronouns do not have bisyllabic forms, and cannot be stressed, even when they are full syllables, as expected for Phonological Clitics.

3 Morphological Deficiency

In the previous chapter we argued that there is no good reason to believe that the difference between strong and deficient pronouns has to do with the absence of a secondary head. Congruent with this, there is no indication that affixed pronouns or infixed pronouns have any less internal syntactic structure than independent pronouns.

Second position infixed pronouns are the most minimal, as conjunctive and reduplicated pronouns, which contain more internal morphology cannot appear in second position. This suggests that there is a potential morphological restriction on special clitics that does not exist for linked words. The restriction on morphological complexity, however, here appears when morphology extraneous to pronominal meaning is added. Therefore, it seems that this is not directly connected to the syntactic shape of the pronoun itself. Although infixed pronouns are very minimal, the semantic content of *'m', 'i',* and *'mi'* is not different enough to indicate that one or another of them has a missing head. I will discuss the implications of the fact that special clitics cannot also bear a focus head further in chapter 3.

4 Syntactic Deficiency

4.1 Coordination

Ability to be coordinated has been a problematic diagnostic for lexical type. As we saw in chapter 1, there seems to be a restriction on the coordination of clitic-words that is not reducible to allowance or prohibition. One theory was that because coordinators are often phonologically minimal and a cluster of phonologically minimal elements can be prevented from projecting prosodic word nodes, a language with a phonological clitic type conjunction would have a restriction on coordination while one with a phonological word type conjunction would not. Chereches (2014) however, has evidence that in some languages clitic clusters can indeed project their own phonological word node.

In Middle Welsh, the word *ac* 'and' frequently loses its *c* before consonants, suggesting that it is phonologically minimal. The Middle Welsh *ac* /ag/, reduced to a monosyllable from Old

Welsh *hacet*, is unlikely to project its own phonological word node. Thus Middle Welsh should be a language where phonological clitics fail to be conjoinable.

In accordance with the predictions of this possibility, coordination is available for independent and affixed pronouns but is not found with infixed ones.

4.1.1 Conjoined Independent Pronouns: Simple and Reduplicated

31a) *Mi* *ac* *euronwy* *ac* *euron*
1sS & Euronwy & Euron
'I and Euronwy, and Euron.' (Llyfer Taliesin XVI)

31b) *Wrth* *no=t* *yn* *gymeint* *gewilyd itti* *arglwyd*
because than=it P big.eq disgrace to.2s lord
kyhyrdu *kewilyd* *a miui* *ac* *a thy hun.*
long.eq disgrace of me and of yourself
'Because it is as big a disgrace to you, Lord, as it is a disgrace of me and of yourself.' (Evans 1893:1131)

Although Middle Welsh is sparse on examples of independent conjunctives being conjoined, they do exist in Modern Welsh. Although a few of the uses of the conjunctive pronouns have been lost, syntactically they seem to have undergone very little change, it is likely that it was possible in Middle Welsh as well.

4.1.2 Conjoined Affixed Pronouns: Simple and Conjunctive

32a) *'Blwydyn'* *heb* *ef,* *'y heno,*
year quote 3sm tonight,
y mae *oet* *y rof* ***i*** ***ac*** ***ef,*** *ar* *y* *ryt'*
be.3s age between.1s **1sSA** **and** **3sS** at the ford
'a year from tonight, said he, there is a meeting between him and me at the ford.' (PKM 3.16-17)

32b) *nyt* *ymadawn* ***inheu*** ***ac*** ***ef*** *yny* *wypwn* *pwy* *uei*
NEG recip.leave.1s **1sC** **&** **3sm** until know who be3s
'He and I would not leave each other until I knew who he was.' (Pen. MS 4)

There is no evidence for the conjunction of infixed pronouns.

Our alternative analysis is one where the operation of cliticization is restricted to applying only to Xmin/max elements, which conjunctions are not. However, I argue that if the first conjunct is local to a cliticization position, it can to undergo cliticization out of the ConjP and into a nearby head. As discussed in chapter one, the Coordinate Structure Constraint has been convincingly argued by Johannessen (1998) and others to be derived semantically. I suggest that extraction out of coordinate structures is only precluded if reconstruction becomes too difficult. For NP/DP conjunctions this is nearly always the case, therefore there would be no way to learn a pattern that contained extraction out of a conjunction, unless the extraction did not break linarity. If the conjuncts are still in the same order, the semantic interpretation is unimpeded. Therefore, cliticization can occur involving part of a conjunction, but only if there is no further movement that would remove the conjunct from its context.

On first glance, this is an argument against affixed pronouns being morphological clitics, since they can be conjoined, as in (32a) and (32b). However, we only have evidence of affixed pronouns in first position in conjunctions. Since this is the position that is local to the verb, the agreeing element that may serve as the clitic-host for the affixed pronoun, and we argue that cliticization can happen out of ConjPs if the linear output is unchanged, the evidence also supports this theory.

Why then can infixed pronouns never be coordinated? If we recall the morphological distinction above, where morphologically complex pronouns can also not appear in infixed position, we may be seeing a restriction on complexity that applies to special or second position clitics, perhaps because one of the properties of being a special clitic is that of morphological simplicity, a quality which a coordinate construction inherently lacks.

On a phonological analysis, the results of the coordination diagnostic support the idea that independent and affixed pronouns are phonologically full and infixed pronouns are phonologically minimal. On a syntactic analysis, it is possible to say that the reason the affixed pronoun can only be coordinated if it is in initial position has to do with the cliticization operation. Phrases, even ConjPs, cannot undergo cliticization. If instead of phonological deficiency and in addition to syntactic deficiency for both, we also attribute a morphological difference to special clitics and linked words, where special clitics must be monomorphemic and linked words can be multimorphemic, we can have a restriction on coordination that applies to both, but is stronger for special clitics than linked words.

4.2 C-Modification

There is no evidence for modification of pronouns in Middle Welsh. It is also difficult to see in Modern Welsh. A structure like 'only me', as in (42) may contain a complicated phrasal structure involving negation, but it clearly contains an independent pronoun. For a structure like 'poor me' in (34) a prepositional object is used to represent the pronoun. Infixed and affixed pronouns are not seen with modifiers.

33) *ai* ***dim ond fi*** *sydd wedi bod ar ddihun trwy'r nos?*
Q **no-one but 1sI** COP PERF COP on awake through'DET night
'Was it only me who was awake all night?'

34) *druan ohono i*
poor of.1s 1sA
'poor me'

The structure of these modifiers is such that they must be phrasal and pre-nominal. It is clear in both examples that modification projects a phrase. For infixed and affixed pronouns, these modifiers should not be available. If we propose that these elements must be head-like or

immediately local to a head, they cannot be modified as they must be non-phrasal or there can be no intervening material.

In Chapter 1 we argued that syntactically deficient elements could not undergo C-Modification, or if they could, the element would have to move out of the adverbial phrase to end up in its final landing spot. This data also supports our hypotheses, that independent pronouns are morphological words, and affixed and infixed pronouns are morphological clitics.

4.3 Base/Theta Position, Dislocation, Isolation, Initial in V2

Distinguishing between independent words and clitic-words has always been a question of position. Independent words are theorized to merge in argument position and move phrasally via internal merge to their final position. Whether clitic-words are also merged in argument positions or are merged directly into their final positions is a topic of debate (cf. Marchis and Alexiadou (2013), Roberts (2010), etc.). But consistently the final landing site for clitic-words is defined as not the same position as a full NP or DP element.

Thus, when we compare the positions of Middle Welsh pronouns to full DP/NP subjects in Middle Welsh, we expect a difference for the clitic-word type ones, but similarity in the independent word type ones.

Infixed pronouns, as usual, are the most unambiguous of the three types. They appear in second position, as is common for special clitics, and this position is not available for DP or NP elements.

35a) *minheu* *a'**e*** *kymmeraf*
1sC RP**'3sI** accept.1s
'I will accept **it**.' (Pwyll 17.26)

35b) *a m*inheu* ***kennadeu*** *welaf*
P 1sC messengers see.1s
*'I will messengers see'

When a direct object appears in base position (post verbally), it shows itself as an independent pronoun, not an infixed pronoun, i.e. a word, not a clitic-word.

36) *kan=ys heb dy genyat ti y gwnaeth duw* ***di***
since=cop without 2sP permission 2sA P make.3spret god **2sI**
'for without thy permission did God make thee.' (CC 23.21, Evans 1964: 50)

When the direct object is the object of an imperative, it always appears in independent form. This is potentially because the second position landing site does not appear in the V1 imperative structure (Evans 1964).

There are also no infixed versions of conjunctive or reduplicating forms. This suggests that although both special clitic forms and independent forms may be merged in argument position, only special clitic forms can be realized in second position.

The position of independent direct object pronouns, however, seems to be as low as the base/theta position for full NP/DP objects.

37a) *y gwnaeth duw* ***di***
P make god **2sI**
'God made you' (excerpt from 46)

37b) *y kynhelis Bendigeiduran* ***Uranwen***
P support Bendigeidfran **Branwen**
'Bendigeidfran supported Branwen' (PKM 44.7)

Because the independent object pronouns alternate with the infixed pronouns in this way, and the full NP/DP objects appear in what seems to be the same place as the independent object pronouns, it seems that independent pronouns can appear in base/theta position, fitting the diagnostic for syntactic words.

When independent pronouns are subjects they appear in initial position in the clause. This is a derived position and not the base position for merger. But as this position is equally available to full DP/NP subjects, it cannot be a clitic-word position. Both the pronouns and the phrasal DPs in this position agree with the verb, suggesting that they are in the same structural relationship with the verb, and therefore in the same position.

38) ***Minheu*** *a* ***af*** *yn* *llawen*
1sCI P go.**1s** in happy
'I will go happily.'

39) ***E*** ***kennadeu*** *a* *aetha**nt*** *ar ol* *Matholwch*
DET messengers P go.**3p** after Matholwch
'The messengers went after Matholwch'

The only difference is that both subject and object DP/NP arguments can be in this position (followed by a), but object pronouns do not appear in this position.

40a) *Y llys* *a* *gyrchyssant*
court P make.for.3plPRET
'They made for the court'

40b) ?*ef* *a* *gyrchyssant*
3sm P make.for.3plPRET

This may have to do with maintaining clear discourse reference. The use of pronouns already indicates that these elements are old information, and a pronominal object moving over the subject into this preverbal position carries must be motivated by discourse prominence. As it is unlikely for a pronominal object to be the most marked entity in the sentence in terms of discourse reference, this move is predicted to be very rare. Besides this one fact, independent pronouns pattern exactly like words.

In our predictions we proposed that affixed pronouns were syntactically restricted. However, on first glance, it seems that affixed pronouns and full DP/NP arguments can appear in

the same place. Although many full DP/NP subjects appear in sentence initial position, the immediately post verbal position is also available for NP/DP subjects. This position becomes the default subject position in Modern Welsh. It is also the position where we find affixed pronouns.

Affixed Pronoun in Post Verbal Position:

41)	*ac*	*a*	*grogaf*	***inheu***	*auory*
	&	P	hang.1s	**1sCA**	tomorrow
	'And I will hang tomorrow'				

DP in Post Verbal Position:

42)	*Ac*	*e ymdeith*	*yd*	*aeth*	***yr***	***yscolheic***
	&	away	P	go	**det**	**clerk**
	'and away went the clerk.'					

But is the position of affixed pronouns and post-verbal DPs actually the same? Comparative negation data suggests not. In Middle Welsh negation data is not very useful because the negation head is high, in the CP. However, while becoming Modern Welsh, Middle Welsh went through the Jespersen Cycle and transformed *dim* 'anything' into a new negative marker, positioned above vP.

In Modern Welsh, negation appears before indefinite subjects of the copula but after definite subjects and pronouns (Borsley and Jones 2000). Thus it appears that both DP subjects and pronominal subjects raise out of the vP and are not in base/theta position.

Indefinite subject of the copula:

43)	*Does*	***dim***	***defaid***	*yn*	*y*	*cae*
	Neg.be	***neg***	**sheep**	in	the	field
	'There are no sheep in the field.'					

Definite:

44)	*Cheisiodd*	***Gwyn***	***ddim***	*ateb*	*y*	*cwestiwn*	*bob*	*tro*
	tried	**Gwyn**	***neg***	answer	the	question	each	turn
	'Gwyn didn't try to answer the question every time.'							

Pronominal:

45)	*Gwerthasant*	***nhw***	***ddim***	*y*	*ci*
	sold.3p	**3pA**	**NEG**	DET	dog
	'They sold the dog.'				

As copula structures are rather unlike normal vPs, this may have more to do with the position of a subject in a small clause and have little to do with base position for general subjects. However, at the very least we can say that NegP is outside the vP, and that the subject of these sentences is not in base position. This basic assumption is proven more thoroughly in Roberts (2005).

In closely related Breton, the second part of the bipartite negation can split a full DP subject from the verb, but not a pronoun. Roberts (2005) following Schafer (1994) argues that in Breton the subject is also moved out of the vP, and negation appears above its landing site, but below the landing site for pronouns. Breton affixed pronouns are not in the same position as full DP/NP subjects.

46) *Ne gousk ket* ***ar baotred***
Neg sleep *not* **the boys**
"the boys do not sleep"

47) *Ne gouskont-**int** ket*
Neg sleep3p-**they** *not*
'They do not sleep."

More supporting evidence for the affixed pronoun position being distinct from the NP/DP subject position comes from modern Welsh dialects. In Pembrokshire Welsh, definite subjects can appear above or below negation, but pronouns can only appear above it (Awbery 1988).

Indefinite:
48) *Nethe* ***ddim dwr*** *pishtyll y tro*
do **NEG water** spring the turn
'**water** from the spring would not do.'

Definite Below Negation:
49) *A ddath* ***ddim y gyfreth*** *i rym nes bod hi'n y Ionawr.*
& come **NEG DET law** in force until be 3sf'P DET January
'and **the law** didn't come into force until January.'

Definite Above Negation:

50) *Ath* ***'y*** ***nhad*** ***ddim*** *i* *mas* *i* *ddrychid*.
go **1sG** **father** **NEG** 1sA out to look
'**my father** didn't go out to look.'

Pronoun:

51) *Weles* ***i*** ***ddim*** *y* *fudde* *honno* *ariod.*
see **1sA** **NEG** DET churn DEM ever
'**I** didn't see that churn ever.'

Since Middle Welsh has preverbal negation it is impossible to use it to see if post-verbal DPs and post-verbal pronouns are in the same position. However data from related languages suggests that they are not. The outcomes in these related languages insist that at some point the post-verbal DP subjects and the post-verbal pronominal subjects were perceived by learners and native speakers to be in distinct positions, only then could their outcomes be made distinct. Thus affixed pronouns still fit our diagnostics for being syntactic clitics.

Similarly, on first glance affixed pronouns which follow possessed nouns also appear to be in the same slot as full NP/DP possessors.

52) *mab Dafydd*
son David
'David's son'

53) *vy* *mab* *i*
my son 3sA
'my son'

However, one key difference is that full NP/DP possessors cannot co-occur with a pre-nominal genitive (Harlos et al 2014).

54) **ei* *mab Dafydd*
3sG son David
'David's son'

The position for affixed pronouns only appears to exist when there is a pre-nominal possessive. In Modern Spoken Welsh, where the pre-nominal possessive pronouns are slowly disappearing, a

post-nominal pronoun can function as the genitive. But this pronoun does not appear in affixed form, instead becoming an independent pronoun, as we would expect in a position also available for NP/DPs.

55) *Car fi 'dy hwnna*
car 1sS be that
'that's my car'

Evidence suggests that the position for full NP/DP possessors is distinct from the position for post-nominal affixed pronouns.

In sum, when looked at as arguments of a verb, infixed pronouns clearly act differently from full NP/DP subjects, and thus are easily interpretable as special clitics. Independent pronouns, though they have one discourse restriction, are otherwise interchangeable with full DP/NP subjects, thus acting more like words. And affixed pronouns, though at first glance interchangeable with post-verbal DP/NP subjects and post-nominal DP/NP possessors, are actually in a different position.

4.4 Object of a Preposition

In the previous chapter, we dismissed the idea that clitic-words cannot be objects of a preposition when faced with counter-evidence and the problem of the emergence of conjugated prepositions. Middle Welsh offers intriguing insight into this diagnostic because it contains both conjugating and non-conjugating prepositions, which use different sets of pronouns. Prepositions in Middle Welsh come in two types: non-conjugating ones that take independent pronouns as their objects, and conjugating ones that take affixed pronouns that agree with the φ-marking on the preposition.

56) *gyt* *a* *(minheu/*inheu)*
together with 1sC(*A)
'with me' (Peniarth 6.iv.20.9)

57) *genhyf* *(inheu/*minheu)*
with.1s 1sCA(*R)
'with me'

This suggests that only conjugating prepositions are able to be clitic hosts, and that there is a subcategorization distinction between the two types of prepositions.

Although we argue that infixed pronouns are also clitic-words, we never find them as objects of prepositions. Infixed pronouns' final landing site is Wackernagel position: second position in the sentence, immediately after a C-layer particle. We have already seen some hints that special clitics are morphologically different from linked words, but it is also possible that it is a property of second-position that causes extra restrictions. Regardless, the object of a preposition is not in the same relationship to second-position that the object of a verb is. To move into second position, an object of a preposition must extract itself from the prepositional phrase. If there is no motivation for this extraction, there is no reason an object of a preposition would appear as a second position clitic. Note well that this only applies to prepositional phrases, not, say, dative case-marked verbal arguments, which we do see on occasion as infixed pronouns in Middle Welsh.

Affixed pronouns can appear as the objects of conjugating prepositions, but if we assume that an agreement head can host a clitic-word, these facts support their status as clitic-words. Infixed pronouns do not appear as the object of prepositions—which, as they are second position clitics—is congruent with their analysis as special clitics.

5 Referentiality

As discussed in the previous chapter, there are few reasons to argue that referentiality should be able to distinguish between complete pronominal paradigms. Isaac (1996) points out that in Middle Welsh it is the contrast between simple and conjunctive pronouns that interacts with referentiality and discourse prominence, not the contrast between independent and affixed.

Cardinaletti and Starke's (1999) syntactic diagnostics for referentiality assume that the syntacically deficient elements should be more weakly referential, able to function as expletives, and unable to refer to very prominent or focused discourse referents.

When we look at Middle Welsh, a few features do support this distinction. For one, independent pronouns can be fronted into the pre-verbal position, which may be a discourse salient position. However, the pre-verbal position in V2 languages is not inherently a discourse prominent position. Although a topicalized or a focused constituent may appear in this position, V2 languages have been shown to have no particular prominence to their initial position (Mohr 2005). In addition, Harlos et al (2014) argue that pronouns in initial position are always subjects of the sentence. No object pronouns ever appear there. If discourse was important for pronouns in this position, we would expect object pronouns to be equally able to undergo A' movement. Instead, pronouns fill this slot as a default function. Subjects raise into this position because they are easily accessible topical DPs, not because they are being focused. Thus, being able to appear in preverbal position does not seem to have any relevance to the diagnostic of referentiality.

It has also been claimed that reduplicated pronouns, the emphatic set, never appear in affixed positions. But as reduplicated pronouns are not well attested, and, as suggested by Harbert (personal communication) are likely on their way out of the language—rare, appearing mainly in dialogue, having assimilated back into the simple pronoun paradigm in Modern

Welsh—this claim is based on insufficient evidence. Example (69) shows that reduplicated pronouns can appear immediately following agreeing verbs, which indicates that affixed position can host emphatic reduplicated pronouns also.

58) *Namyn os ef a dywedy ty e mae **efo** a'th*
except if it P says you P COP **3sR** P'2s
dyholyes ty o'th wlat ac o'th kyfoeth.
banish 2sS from'2sG country and from'2s domain
'Only if you say that it was he who banished you from your country and from your domain.' (Peniarth 44, p. 36. Trans. Rodway, unpublished)

Cardinaletti and Starke (1999) propose that *pro* must always be a weak pronoun. Affixed pronouns are the only optional type. Of course, locating the position of a null element is always only a guess. For subject pronouns, a null pronoun defaults to being assumed to be affixed, because the V2 requirement always fills the position the independent pronoun would have taken. As both independent and affixed pronouns in Middle Welsh trigger agreement, we cannot use this as a diagnostic either. The affixed position is visibly empty, but as the affixed position is not the pronoun's base position, it is impossible to know whether the null element is there, or is in the vP, or does not exist at all. Perhaps the verbal agreement is a fused subject with the φ-features licensed anaphorically.

From these facts we can see that data in support of the idea that referentiality distinguishes between syntactically strong and syntactically deficient is mixed.

Data against this idea, however, is stronger. Contrary to the idea that affixed pronouns are more weakly referential is the fact that expletives in Middle Welsh are usually independent pronouns in sentence initial position. The Cardinaletti and Starke (1999) model claims that we would only find expletives being formed by weakly referential pronouns, i.e. weak and clitic.

Strong pronouns, because of their referential index, require a true referent. But in Middle Welsh we find the opposite (Willis 1998:150).

59) ***Ef*** *a doeth makwyueit a gueisson ieueinc y diarchenu*
3sm P came squires and lads young 3sP disrobe
'There came squires and young lads to disrobe him…'

60) ***Ef*** *a dwetpwyt idaw.*
3sm RP was-said to-3sm
'It was said to him…'

We do, however, find a simple/conjunctive contrast with expletives. Conjunctive pronouns are not used as expletives.

61) **Ynteu* *a welodd Arthyr y gaer*
3sC RP saw Arthur the fortress
'Arthur saw the fortress' (Willis 1998)

This is unsurprising, as the main difference between simple and conjunctive pronouns is one of focus/referentiality.

If Middle Welsh did not have a simple/conjunct/reduplicated contrast, it is possible that independent and affixed pronouns could have developed a referentiality contrast through the sentence initial pronouns' association with Topic and Focus positions and the affixed pronouns' apparent ability to pro-drop. But by having the simple/conjunct/reduplicated contrast, Middle Welsh shows that referentiality is not tied to the strong/weak/clitic pronoun types described in Cardinaletti & Starke (1999) but is orthogonal to them.

6 Conclusion

In this chapter I endeavored to show that the diagnostics developed from our simple 4-way taxonomy of lexical types are suitable for an analysis of actual language data. I predicted that Middle Welsh independent pronouns are independent words, infixed pronouns are special clitics,

and affixed pronouns are linked words. These results are equally applicable to Modern Welsh, though the infixed pronouns are no longer frequently used. Though the diagnostics themselves are not always clear, the data have been shown to accord with these predictions.

In particular, the diagnostics regarding appearance in base/theta position and A' position were particularly consistent and reliable. Coordination is a special case, requiring careful attention when we attempt to formalized the patterns found in the data. In addition, we must take care when looking at the phonological diagnostics, to see if they are truly derived from a phonological category of clitichood/lacking a phonological word node, or if they can be broken down into a more informative definition. We have also used the data from Middle Welsh to reinforce the point that referentiality is not linked to pronoun type.

In the next chapter I will pursue a formal definition of clitichood, and endeavor to account for the behavior described by these diagnostics in terms familiar to syntacticians. Although so far my focus has been the syntactic qualities of clitic-words, I will show that some of their properties can be usefully described as resulting from morphophonological qualities.

CHAPTER 3

THE INTERFACE SOLUTION: HEAD LINKING AND LEXICAL ROOTS

In the previous two chapters I have argued for a four-way split in lexical type, split along two parameters: phonological and syntactic. With these two parameters, I can distinguish between independent words, special clitics, simple clitics, and linked words (weak pronouns).

Table 1. Four Lexical Types

	Phonological Word	**Phonological Clitic**
Syntactic Word	Independent Word	Simple Clitic
Syntactic Clitic	Linked Word	Special Clitic

Phonological aspects of clitic-hood and syntactic aspects are not directly connected. However, the four-way split in the chart above predicts that the way in which an element is phonologically clitic-like should be the same for both special and simple clitics, just as the way an element is syntactically clitic-like should be the same for both special clitics and linked words. In all my diagnostics, save for coordination, syntactic properties separated clitic-words from syntactic words, and phonological properties separated special and simple clitics from independent and linked words. Coordination was restricted for linked words, disallowed for special clitics, and potentially disallowed for simple clitics, suggesting that both phonological clitic properties and syntactic clitic properties might influence the outcome of this diagnostic. A further diagnostic that emerged when examining the property of referentiality in Middle Welsh simple vs. conjunctive pronouns was whether a clitic could be morphologically complex. This also seemed to serve to distinguish phonological clitics from phonological words. Both independent words and linked words could be morphologically complex, while special clitics and potentially simple clitics seemed to need to be morphologically simplex.

The properties that make a lexical element pattern like a syntactic word or clitic and a phonological word or clitic are independent of each other, though they can influence each other in principled ways. What is key to my analysis is that there is no ±clitic feature which arbitrarily types a syntactic element as a clitic-word or not, and then drives further unfounded 'clitic operations'. Instead, for syntactic clitics, I propose a model where—especially for cases where there are clitic and non-clitic variants of the same morpheme—there is only one input to the numeration. The differences in the spell-out of these forms depends on where the morpheme ends up in the completed derivation. For phonological clitics I suggest that the properties we associate with these types of clitics can be broken down further into leaner-type and affix-type, with the affix-type ones being true 'phonological clitics' and realizing the syntactic properties we expect for special clitics. Rather than the phonological properties being responsible for these behaviors, I suggest that the morphosyntactic representation and its similarity to the morphosyntactic representation of affixes is what is responsible for these patterns.

The patterns found in our diagnostics motivated an interim analysis for the syntactic deficiency that results in syntactic clitichood. One idea was that it could be explained by the theory that syntactic clitics are simply syntactic heads, possibly non-projecting heads, ala Toivonen (2003). However, this analysis does not fully predict the data about coordination or does it explain the relationship is between a clitic argument and its theta-position. Instead, I will argue that we need a derivational process by which an element begins by merging into theta position and only subsequently takes on head status and is realized as a clitic.

In this chapter I will argue that syntactic clitichood is the realization of a form that has undergone a process of head linking during the syntactic derivation, i.e. a syntactic clitic behaves in the way that it does because it is a head (X^0 node) or has become part of a head during the

derivation. The diagnostics that identify clitic-words pick out Xmin categories that begin as an Xmin/max and are fused to a local X^0.

Heads and XPs behave different syntactically (Travis 1984), morphologically (Harley and Noyer 1998), and phonologically (Nespor and Vogel 1986; Truckenbrodt 1999 a.o.), indicating that the structural difference between an Xmax element and an Xmin element influences the spell-out of a form in many important ways. Therefore, we expect that a single morpheme can have different output forms depending on whether it it is sent to spell-out from a phrasal position—as Xmin/max—or from a head position—as X^0.

What we will further see is that when an element is both a syntactic clitic and a phonological clitic, we are required to more carefully consider how my model for syntactic deficiency (head fusion) interacts with morphological spell-out, and how that provides useful inputs for Anderson's (2005) model of phonological clitichood.

In section one I will discuss the definition of syntactic clitichood. First I will show that clitic-words can be initially merged as syntactic arguments. Second, I will show that an Xmin/max element being interpreted as a head (an X^0 element) is often assumed, and therefore the idea that an argument can become a head/part of a head is neither novel nor peculiar. Third, I will show how recent approaches to head-movement can be formalized in a way that allows for Xmin/max elements to be fused with local heads in their projection in a constrained and principled way.

In section two I will discuss the how syntactic clitichood and phonological clitichood interact. In particular, I will suggest a DM-inspired model of spell-out and show how the link between special clitics and affixes can account for the extra syntactic restrictions special clitics

found in our diagnostics, in particular the restrictions on coordination and morphological complexity.

1 Unifying Cliticization and Head-Movement

In the previous two chapters I evaluated and tested a set of diagnostics meant to distinguish clitic-words from independent words. From these diagnostics we gathered two clear predictions about the syntax of clitic-words.

1) Clitic-words are never realized in Base/Theta position
2) Clitic-words are never realized in a cleft, a dislocated structure, or in isolation

When applied specifically to pronouns, we can see that clitic-word pronouns are both like and unlike independent pronouns. They are functionally alike in that both refer to elements already present in the discourse. They are often in complementary distribution with independent pronouns. They are different in that clitic-words never appear in the same positions as independent pronouns. They never appear where arguments initially merge: base/theta position. And they never appear in the same A' positions where independent pronouns may appear: dislocation, isolation, clefts, preverbal in V2.

I propose a derivational account of these facts. In the numeration, independent and clitic-word type pronouns are identical φ-bundles. These φ-bundles are initially merged in theta position as arguments of the verb or preposition. If they are realized in that position or in any position which they get to via phrasal movement, such as SpecT or A' positions, they are realized as independent pronouns. However, if they subsequently undergo a different operation, one that

fuses them to a local head, making them part of the morphological word that makes up the X0 node, they are realized as a clitic. Because they have undergone this operation they have 'moved' into head position, and so by definition, the element cannot appear in base or theta position, nor in a regular A' position.

Assuming that clitic-words fuse with a head results in the behavior we expect. Clitic-words do not appear in the same positions as full phrase variants. Head positions are very different from phrasal positions. Edge features and triggers for A' movement target full phrases and can extract them for remerge. Heads cannot be extracted from their phrase by the same kind of edge features or A' movement features that trigger phrasal movement. One of Zwicky's main identification factors for clitics is that they are in a position that is both unlike independent elements of their lexical class and a position that is "easy to describe". Head positions are distinct from the regular positions of phrasal elements and part of the fixed spine of a sentence. Because of this an element fused with a particular head is both in a position unlike independent versions of the same element and also in a position that is easy to describe. If an element is fused with a head, it can no longer be said to be in the same position as it was pre-fusion, thus the specifier of a head and the specifier of a head that has undergone fusion with that head are not in the same syntactic position.

A further reason that a head-fusion analysis is appealing is because it does not require the addition of extra apparatus to explain the distribution of clitic-words. The process of head-movement as formalized by Matushansky (2006) already requires a head-fusion function, therefore a model of head-movement entails the possibility of a model of cliticization as head-fusion also.

This proposal hinges upon two claims. One, that clitic-word pronouns can be arguments of the verb, and, two, that clitic-words can fuse with heads during the derivation. Previous analyses of clitic-type elements reject one or both of these claims and are the poorer for it.

1.1 Clitic-words as Arguments

1.1.1 Alternatives to Argumenthood

Many analyses of clitic words reject the idea that clitic pronouns can be the arguments of verbs or prepositions. However, by rejecting this, these analyses are forced to include extra functional apparatus that results in an overcomplicated syntax or syntax-morphology interface. Two major proposals for non-argument clitics are clitics as phrasal affixes and required clitic-doubling. Theories that describe clitic-words as phrasal affixes are non-parsimonious in that they must develop extra functionality in the syntax to identify and position phrasal affixes. Theories that require all clitics to double an independent pronoun proliferate null pronouns unnecessarily.

Klavans (1982, 1985) and Anderson (2005) proposed a phrasal affix analysis. This analysis adds a set of post-lexical morphological rules separate from stem- and word-level morphology in order to insert and position certain morphemes at phrasal boundaries. Bermúdez-Otero & Payne (2008) intended to improve upon Klavans's (1982, 1985) and Anderson's (2005) analyses by rejecting this further derivational morphological stage. Instead they add a theory of syntactic feature-passing within subtrees that transfers phrasal features to heads or edges. Both of these proposals include extra derivational machinery or rules about the morphological outputs of feature passing. Though these analyses work, they are very clitic-specific and do not further our understanding of syntax or the syntax-morphology interface.

Clitic doubling analyses also reject the idea of clitics as arguments. When a clitic doubles an overt DP/NP, the DP/NP element is likely to be the argument. But, assuming clitic doubling with no overt argument is less convincing. Analyses where a φ-marked clitic must always be doubling an argument, and must not be the argument, require a proliferation of *pro*-forms in the syntax. Preminger (2015), for example, offers a proposal where every sentence in every language with a clitic pronoun also contains *pro*. The clitic and the *pro* merge in the numeration and then merge as one phrase into argument position, whereupon the clitic undergoes further movement separate from the *pro.* In this analysis, the clitic-words are essentially merged in argument position, suggesting that they scope, etc., the same as arguments. This makes the predictions for clitic-word+*pro* and clitic-word as argument identical and therefore the analysis untestable. It is also unclear what cue a learner would interpret to insert a *pro* in all sentences with a clitic-word as well as ones no argument marking.

Besides this proliferation of *pro* being non-parsimonious, it undermines the historical trajectory as described by Fuß (2005) and others, in which an element transitions from an independent pronoun to an agreement affix, hitting clitic-status on the way. An independent pronoun becoming a clitic can be analyzed as one step, but an independent pronoun becoming *pro* plus the insertion of a clitic adjunct seems to be at least a two-phase transition.

1.1.2 Approaches to Fusion

Approaches that avoid the idea of clitics as arguments come hand in hand with a rejection of the idea that a morpheme that looks like an inflectional affix could ever be an argument. But analyses involving 'fused arguments' have been dismissed without a full investigation of their predictions and benefits. In Anderson (1982) we see that a fused argument analysis can explain

complicated agreement data (further discussions of this type of proposal can be found in Hale (1990), Armstrong (1977), Pranks (1983), Stump (1984), and Saxon (1986, 1989)).

Anderson (1982) argues that in Breton verbal agreement morphology is pronominal. Agreement only appears when there is no overt NP subject. Otherwise the agreement takes a default form with both post-verbal subjects and pre-verbal 'topics'.

62) *Bemdez* *e* *lenn/*lennont* *ar* *vugale* *eul* *levr*
every day P read.3s/*3p the kids a book
'The kids read a book every day'

63) *Me* *a* *lenno/*lennin* *eul* *levr* *bemdez*
I P read.fut.3s/*1s a book every day
'I will read a book every day'

Subject pronouns are also highly restricted. Not only can they never appear with agreement on the verb, even with a default agreement verb, they can only appear in the preverbal 'topic' position and not the post-verbal subject position.

64) **War an tan* *e* *daolo* *c'hwi* *dour*
On the fire P pour.fut.3s 2p water
'You will pour water on the fire'

Anderson (1982) proposes a simple rule: a pronominal subject in the canonical post-verbal subject position fuses to the verb. Once fused, it looks like verbal agreement. If the pronominal argument is moved to topic position, of course there is no sign of agreement, because the pronoun is not in the position that fuses to the verb. If there is an overt NP/DP argument there is no pronoun to fuse with the verb, and therefore the appearance of an anti-agreement effect. In essence, Breton has no agreement. What appears to be agreement is the pronominal argument.

Breton is an example of synchronic argument fusion, suggesting that it is possible and parsimonious to argue that +φ elements, once they have been merged into the derivation, can undergo a variety of processes (fronting, fusion) which result in their realization as various lexical types.

Theories of fused pronouns—affixes that function as the argument of the verb—are somewhat contentious, but a morphological model like Distributed Morphology (Halle and Marantz 1993, 1994; Harley and Noyer 1999, etc.) makes this not only a possible situation, but a predicted one. As our understanding of argument structure and the vP makes clear, at some point the verb and its arguments are in a local relationship, local enough that a single use of DM's morphological merger function would be enough to realize the features of the subject on the verb, particularly if the subject is a φ-bundle, i.e. a pronoun.

The natural implication of fused pronouns is that there is no reason to assume that there is any correspondence between phonological shape and whether something is a uφ probe or has inherent φ. An affix may have either, and an independent word also may have either.

1.1.3 Fusion as a Historical Process

Fusion to a head is also a necessary step in the diachronic transition from independent pronoun to agreement affix (Fuß 2005). Historical linguists have shown repeatedly that many agreement morphemes are derived from independent pronominal elements. The progression of these elements follows three trajectories of change: phonological change as they reduce from phonological words to part of their host word; syntactic change, as they transition from full words to syntactically restricted words to bound elements; and semantic change, as they transition from full φ- and theta-bearing arguments to φ-agreement probes that cannot have a

theta role. We may expect that these morphemes do not all move along these trajectories at the same rates. Although some may become affixes at the same time as they become φ-bleached, others may become a uφ probe before they fuse to another word, and others may fuse to a word before they become a uφ probe. We would also expect pragmatic considerations to be able to de-fuse pronouns since A' movement blocks cliticization, as is indeed seen in Australian languages (Mushin and Simpson 2008).

By extending the idea of head fusion to be a general process where any independently merged element can be made part of a head, we now have a more detailed understanding of a reasonably common process of language change. Van Gelderen (2004) proposes a principle of economy in syntactic change where head status is preferable to phrasal status. She argues that pronouns are all in the process of transitioning from phrases to heads to affixes (agreement affixes being heads which check features in a head-to-head relation). One example of this is the English complementizers, such as *that* and *who*, which began as specifiers of NPs/heads of DPs and transitioned into C elements. For her, this process of change is not just common, but quintessential.

Whitman (2001) proposes that 'relabelling'—changing the categorical feature of a head—is the minimal form of syntactic change in a bare phrase structure system. One relabelling that he describes takes the Chinese subject pronoun *shi* and transforms it into a copula. The pronoun has the categorial feature D, and can be relabelled as V. In this case the pronoun's status as a specifier is subordinate to the fact that it has a head-style categorial feature. However, assuming that there is a stage in which this pronoun is a D element which undergoes fusion with a V element allows us to track this relabelling transition in a more precise way.

1.1.4 Clitic-words can be Arguments

The main thing that seems to suggest that clitic words are not arguments of the verb, is simply that they do not behave like regular arguments. Their final landing sites are not those predicted by the normal A-movement behaviors of arguments. Many analyses wish to propose that clitic-words are like affixes, inserted morphologically, not syntactically at all. The reasoning for this is sensible also. Clitic-words appear in specific positions in the sentence, they do not move like independent words, and often, like affixes, their position can be described as one that is linked to a head. Subject clitics have been analyzed as appearing in a head of INFL by Jaeggli (1982), Sportiche (1983), Roberge (1990) etc.. Second position clitics often are described as linking to the C head. Verbal clitics can be described as linking to V or T. Although there is still a contretemps about whether English *n't* is a clitic or an affix (Zwicky and Pullum (1983) claim it is an affix), analyzing it as fused with the T head allows us to understand how it moves into C along with the T head in interrogatives.

What all of these analyses show is that there is something un-phrase-like about clitic-words. But they do not show us that clitic-words cannot be arguments. The best argument for argumenthood is found in Anderson (1982), simply pointing out that when full arguments and clitic-type elements are in complementary distribution, the clitic-type elements are also probably arguments.

The idea that clitic-words are head-like can undergo head-movement is supported by many analyses of clitic-type elements and also by models of head-movement. In the following section I will show that the idea that elements merged initially in specifier or complement position can be interpreted as head-like is supported by the intuitions of many previous analyses of clitics as being both specifier and head.

1.2 Phrases Becoming Heads All Over

The idea that elements can move first like phrases and then like heads is a common one in the analysis of clitics. The first to propose that clitics were initially merged as an XP and then moved up to adjoin to an appropriate verb was Kayne (1975). Sportiche (1995) agreed that clitics underwent two types of movement, and defined these types as first phrasal movement—of the phrase containing the clitic—followed by head-movement of the clitic alone. Many others followed this intuition.

Panagiotidis (2002) pointed out that in the new formulation of bare phrase structure there is no minimal head complexity to be a phrase, which means there is no difference between non-branching phrases and heads. Thus bare phrase structure predicts that a non-branching phrase should be able to undergo any operation that also applies to heads.

Following this intuition, Roberts (2010) rejected the need to first move a large XP followed by head-movement out of the XP. Instead, he points out that in a minimalist system the difference between X^0 and Xmin is moot. He defines Xmin and Xmax as such:

Xmin: A is minimal if it dominates no category whose label is distinct from A's

Xmax: B is maximal if it is not immediately dominated by a category whose label is non-distinct from B's.

Therefore, any terminal node which has no dominating element in the same phrase is both minimal and maximal. Any non-projecting head is by definition min/max. Min/max elements are maximal, so they can move via phrasal movement, like an XP, but are also minimal, so they can also move via head-movement. Pronouns, by their nature, are non-branching but merged in the

same position as a phrase, and are therefore all min/max elements, which are allowed to move like a phrase and a head as they please.

Other analyses of clitics, such as Matushansky (2006) and Preminger (2015), use reformulations of head-movement to motivate clitic placement. All of these theories seem to conclude that clitics must be heads—in some interpretation of the term—and that it is no real problem for heads to be initially merged as specifiers or complements.

These assumptions, however, are not universally accepted. The distinction between head and specifier is a key part of the minimalist system. Functionally, the heads are what drive selection and merge. They also provide labels for phrasal categories.

Although there has been some debate over the worth of labelling in a Minimalist system (cf. Collins 2008) and the need to differentiate heads from specifiers, Chomsky (2013) maintains that a labelling mechanism is an inherent part of the syntax, and that some of our understandings of syntactic operations have to do with the way this labelling mechanism interacts with ambiguous structures. Labelling, according to Chomsky (2013), licenses the interpretation of syntactic objects. "Projection is a theory-internal notion, part of the computational process GP. For a syntactic object (SO) to be interpreted, some information is necessary about it: what kind of object is it? Labeling is the process of providing that information" (43).[6]

Chomsky (2013) refuses to take the route proposed by Roberts (2010) etc. and does not assume that any min/max category can behave like a head or a phrase. "A pronoun X can appear in a structure {X, YP}, as in S = ‘‘he left.’’ But it cannot be a head, or it would label S incorrectly. Therefore it must be a more complex structure" (46). He suggests {D, pro}, as in

6 For a syntactic object {H, XP} the labelling algorithm identifies the head in order to determine the identity of the syntactic object. The object {XP, YP} contains two heads, X and Y, of equal status, and the algorithm decide which one will provide the label. If the heads X and Y are of the same category, the syntactic object will take that label. If they are not, the syntactic object must be changed so that one head is dominant.

Uriagereka (1988).7 This proposal contradicts the assumption that any apparently X-min/max element can undergo head-movement type operations.

Intuitively, X-min/max projections are not free to behave like heads, or else all proper names and any unmodified singular noun would also be allowed to undergo head-movement (depending upon how many null elements you include in your structure.) But is assuming a secret complexity truly different from artificially including an arbitrary head/specifier distinction?

1.3 Phrases becoming Heads only Sometimes

Many previous analyses have engaged with the idea that an X-min/max element may in some sense become a head or become identified with a head. I acknowledge Chomsky's (2013) criticisms of the free interpretation of Xmin/max elements as heads, and agree that assuming all Xmin/max elements can function like heads overgenerates. Instead, I return to the proposal in Chomsky (2005), where an XP can also be an X^0, and when it is, it can move as an XP up until its final step which may be one of head adjunction. To make certain this does not overgenerate, I suggest that certain lexical sets can be subcategorized as strongly linked to a particular X^0 node and if they are Xmin/max, they can undergo fusion with that head and that head only. Once fused, they undergo any operation affecting the X^0 node along with it.

This idea accords with the intuitions of Roberts, Panagiotidis, Chomsky (2005) and the rest who argue that Xmin/max elements can move both phrasally and via head-movement, but it also does not assume that all X-min/max elements are functionally X^0 nodes. This allows us to

7 I will suggest a similar proposal for pronouns that end up in A' positions. Instead of D, I suggest they merge with an invisible Topic head and are complex structures, which precludes cliticization. However, unlike Chomsky's suggested analysis, this is not the default structure for pronouns, but a structure derived during the derivation.

avoid the overly generous interpretation of the situation that inspired Chomsky (2013) to propose a secretly complex pronominal structure.

In sum, an analysis where selected X-min/max elements are able to undergo fusion with selected X^0 nodes and thereby become clitic-words can capture the head-like properties of clitic-words without undermining Chomsky's labelling algorithm or creating extra φ-projections in the spine.

1.4 How do we turn a spec into a head?

The final question that still requires discussion is, of course, if clitic-words are not functional heads, how then can they fuse with actual heads? To answer this, our best lead is head-movement. Recently, some have attempted to push head-movement out of the syntax into PF (Boeckx and Stjepanovic 2001; Chomsky 2000, 2001; Harley 2004) but syntactic effects of head-movement. Lechner (2014) shows that head-movement can create different semantic interpretations, and thus must be in the syntax.

Traditionally head-movement has always involved a combinatory function, called 'incorporation' in Baker 1988, as it was intended to explain how a verbal root could move up the tree incorporating morphemes which began as independent functional heads, etc.. Allowing the incorporation function to apply to clitics and their host-heads is natural if we argue that clitics are also heads. But if clitics are just Xmin/max and not X^0, while the usual undergoers of head-movement are necessarily X^0/Xmin, we must reevaluate exactly how head-movement functions and when and why it could apply to non-X^0 elements.

1.4.1 Bayer and Brandner (2008)

One theory of how a specifier becoming a head can be the same process as head-movement can be found in Bayer and Brandner (2008). Bayer and Brandner (2008) analyze a situation very different from our traditional pronominal clitics, but also one where an element moves from a phrasal position into a head slot.

This situation occurs in Middle Bavarian and Lake Constance Alemannic. Neither language has a restriction on doubly filled comp, except for when the relative interrogative pronoun is—according to Bayer and Brandner (2008)—monosyllabic.

According to their theory, these 'monosyllabic' wh-elements occupy the C_0 position in embedded interrogative clauses, blocking the realization of *dass*, the usual complementizer. The WH-element functions as a complementizer and types the clause. In order to get the WH-element to function as the complementizer, they mark all WH pronouns with an extra latent categorial feature. This categorial feature is one which selects T as its complement, triggering remerger into spec of SpecT, and causing the WH to become the C-head.

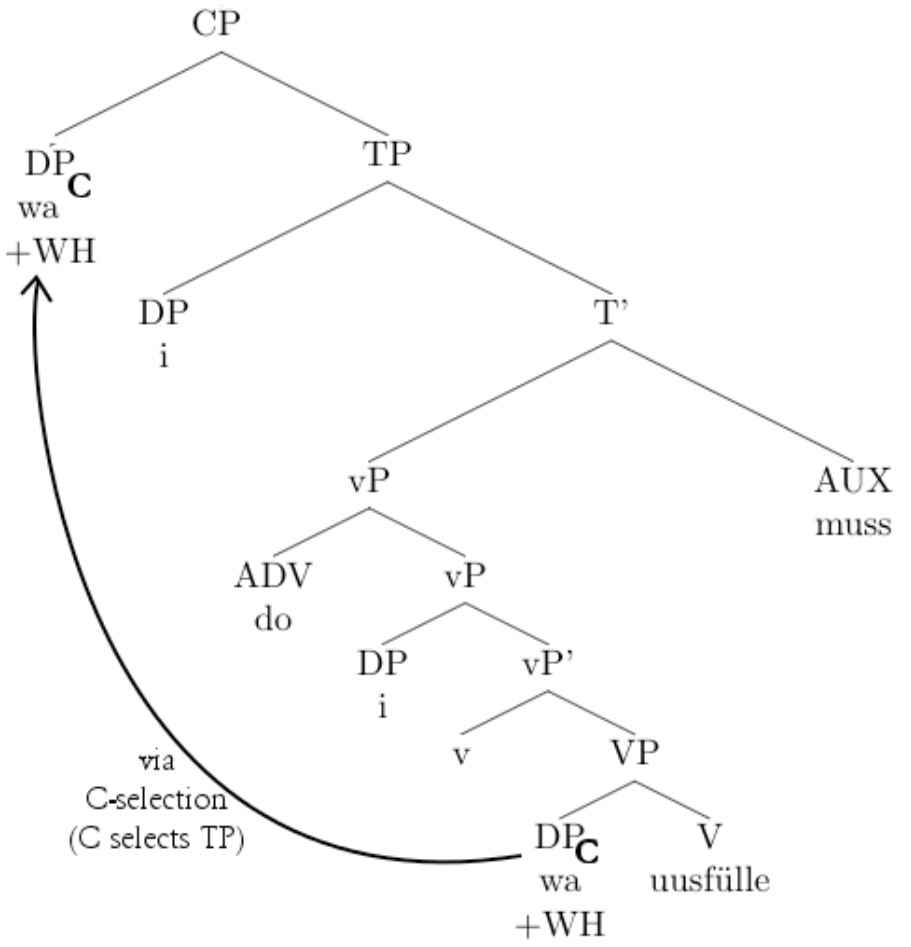

Figure 4. Bayer and Brandner-style Long Distance C-Selection

They follow Koeneman (2000; 2002), Bury (2002), Fanselow (2002) and Brandner (2004)'s notion of head-movement. Here, head-movement can be re-analyzed as self-attachment of a head to the highest maximal projection iff the head in question contains a (so-far unactivated) categorial selection feature by which this head selects the root node of the tree and induces its own X-bar projection. The feature that licenses this head-movement is the latent C-feature <αC> (**C** in the above tree).

This feature can only project a phrasal category if it is at the top of the tree. Therefore, even if a phrasal WH remerges as sister to TP, it cannot function as the C head and project a CP. Therefore there is no CP for the matrix verb to select and the derivation crashes. Although this

model accounts for the data, it is somewhat concerning that WH elements are always inherently—though often latently—C heads.

Bayer and Brandner's (2008) latent categorial selection features don't need to be checked. But, including them adds a tertiary set of features that drive tree formation but function differently from normal selectional or edge features. In this system, head-movement is be motivated by the moving head itself. If V raises to T, V has a T categorial feature as well as a V feature, and therefore it is the T head. Any features meant to be realized on T must already be in the V head.

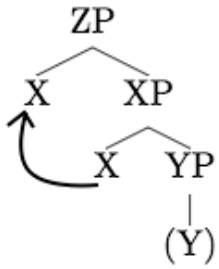

Figure 5. Bayer and Brandner's feature specification of X: αX αZ (2 categorial features)

Although the Bayer and Brandner (2008) system is functional, the idea of latent categorial features adds a good deal of complication into the system. But the real problem is simply this: by introducing the concept of a latent categorial feature we have broken one of the main generalizations of minimalist syntax: nothing can be selected until it has checked all of its features. For local head-movement this model would be fine amount to self-selection. But for WH words and clitics this would involve long distance head-movement and be necessarily preceded by the selection of a head with unchecked features as a verbal argument. A head with unchecked features should never be mistaken for a phrase. Although Bayer and Brandner's

(2008) facts are good and their intuitions are appealing, their formulation of how a phrase can become functionally a head is problematic.

1.4.2 Matushansky (2006)

An alternative formulation of head-movement which is somewhat less problematic is Matushansky's (2006) theory of m-merge.

Matushansky (2006) suggests making head-movement a subtype of feature driven phrasal movement. She argues that the differences in locality and constituency for head-movement and phrasal movement can be explained by linking head-movement and c-selection. C-selection is inherently local, and thus making head-movement immediately subsequent to and targeting the same features as c-selection restricts it in the ways others have found head-movement to be restricted. In particular she says, "C-selection is obligatorily the first operation to take place in the newly created tree. Since c-select is the same thing as Agree, once a c-select relation is established between two heads, the possibility of overt head-movement ensues until a new search procedure is initiated." (Matushansky 2006, p. 83) This means that selection of categorial features, c-selection, is a precondition on head-movement. i.e. the categorial feature on the selecting head entails the possibility for raising of a lower head. Due to the Transparency Condition—a head ceases to be accessible once another head starts to project—head-movement must occur prior to phrasal Merge. Therefore T c-selects V (cV) and then attempts to remerge V (+V) only subsequently trying to merge an N (+N), because it did not c-select N.

Preminger (2015) stipulates further by offering the principle of Minimal Remerge. Although the same type of features trigger both head and phrasal movement, movement of a head is always preferred, but when the Xmin/X^0 is not available for movement, the full phrase

must move. The Xmin/X^0 becomes unavailable once it the projection which has c-selected it merges its specifier.

Head-movement in Matushanky's system, following Toyoshima (2000, 2001), targets the specifier position, just like any other movement operation, and therefore does not violate the extension condition, and includes moved heads in the c-command relationship. Only after movement to specifier position are the movement-triggering-head and the moved-head merged. This merger occurs via the operation m-merger, derived from a Distributed Morphology operation, and results in a new Xmin head.

Matushansky (2006) defines m-merge as "an operation of the morphological component" which occurs after the syntactic operation of movement to specifier (2006: 81). It is a partial spell-out operation which creates feature bundles. It being morphological means that it creates syntactically opaque units. This prevents excorporation of heads, and also, she suggests, may allow these elements to not be subject to c-command, though this seems to negate a part of this analysis's strengths. Because it is a spell-out operation it is post syntactic, but because it is iterative and the fused head must still be available for further head-movement operations, Matushansky proposes that the head created by m-merge is a syntactic phase (2006:95). This creates a strongly cyclic syntax. Additionally, Matushansky claims that this operation is the same as pre-syntactic feature bundling. Arguing that m-merge is a morphological/spell-out operation that takes place during the syntax allows us to account for both the word-formation facts and the cyclic movement facts regarding heads.

Unlike in the Bayer and Brandner (2008) system, the feature that drives head-movement is not a categorial selection feature, it is a categorial label feature, which is the target of remerge by the selecting head. M-merge can apply in situations where Xmin/max elements are adjacent to

a functional head. After m-merge, these Xmin/max elements and the X^0 node are treated as a single X^0 node which bears all the features of the fused heads.

For a clitic to undergo m-merge and fuse with a head in this system it needs to be in a "head adjacency configuration", i.e. immediately dominate or be immediately subordinate to the head (2006:85). With free application, this over-generates. Even if we restrict m-merge just to Xmin/max element merged into spec due to a probe on the head, it over-generates. Any Xmin/max, potentially including indefinite nouns and proper names, could, theoretically, merge into a local head position.

Thus, some restrictions seem necessary. M-merge must be more precisely defined. In the following section I will lay out a specific formalization of m-merge that offers a consistent and not over-productive analysis for both head-movement and cliticization.

1.4.3 Thoughts about Syntactic Clitics

In this section I argued that my proposal that clitic-words could be productively described as heads or parts of heads—in particular, that clitic-words could be merged as arguments and subsequently undergo fusion with a head—is neither novel nor theoretically unfounded. The particular formal system I will use to model fusion is a refinement of Matushansky's (2006) m-merge. In the next section I will describe this model and also show how it allows us to account for the diagnostics of syntactic clitichood in a concise and predictable way.

1.5 Formalizing M-Merge

In Matushansky's (2006) model the movement part of head-movement functions just like phrasal movement. It is feature driven, and it obeys the extension condition by moving to the top of the tree, thereby c-commanding its extraction site. I will adopt this proposal in my syntactic model.

Unlike Matushansky, I do not claim that c-select is the same as agree. Instead categorial selection features (cX) activate when the internal derivation of a tree pauses because all its features are for the moment satisfied. If the categorial label that the root node bears matches the categorial selection feature of the functional head, the functional head merges to the top of the tree. Edge features (+X) trigger both Internal and External Merge, and seek—first in the tree and then outside of it—an element with a matching feature to merge into its specifier.

I suggest that the reason head-movement happens before phrasal movement—obeying the locality condition and never moving a phrasal category—is due to the fact that head-movement is triggered by a particular type of categorial selection feature: Select+Remerge (c+X). This is simply a combination of a c-select feature and an edge feature, intuitively similar to a 'strong' categorial feature. This combined feature selects the root node to merge to and then attempts to remerge the immediately subordinate head into specifier position. Only after both parts of this feature are activated do other edge features on the head attempt to merge phrases to the top of the tree. It also maintains the local relationship between the c-selecting head and the head that undergoes head-movement.

One issue with many morphological operations is that there are no notions of how to constrain when and where they apply. Arguing that m-merge is a basic morphological function that freely applies to any local Xmin(/max) elements would overgenerate and fuse independent morphemes. To constrain its application I propose that m-merge can only apply when the two

immediately local Xmin(/max) elements share a categorial label. Categorial labels—the N feature on a noun, or the T feature on tense—are inert, existing only so that a c-selection feature may see them and merge with their root node. Because they are inert—do not drive syntactic operations—and because their labels correspond to lexical categories—are linked to morphological outputs—, they are eminently suitable to be a precondition for a morphological operation such as m-merge.

All lexical elements in the class of verbs bear a V label, all transitive verbs also bear a v, in languages with v to T movement, they also bear a T label. In English, the class of auxiliary verbs, a subset of verbs containing {be, do, have, can, must, etc.}, undergo movement to T and to C and therefore must be subcategorized for T and C, while regular verbs are not. It is possible that the operation which triggers movement of the head into specifier position is sensitive to these subcategories—seeking a V+T element to move to specT and ignoring a V-T element, motivating the difference between (65a) and (b).

65a) Must John leave?

65b) *Ate John the brisket?

Since subsets of lexical classes can follow different head-movement patterns, it is necessary to be able to subcategorize subsets for fusion to a functional head. This subcategorization feature is a necessary precursor for cliticization via m-merge. Although all values of a paradigm may be subcategorized for fusion with a certain functional head, only when this element is in an immediate hierarchical relationship with an Xmin/max element similarly subcategorized can it undergo m-merge.

If we assume that all lexical heads must be subcategorized to undergo fusion with a functional head, it is unsurprising that elements not initially merged into X^0 positions can

undergo m-merge and fuse to a head. Therefore, the idea that pronouns can fuse to a functional head is not only unsurprising, their fusion to an N functional head is an underlying principle of the syntax. The fact that they can be subcategorized to also be able to m-merge with a V or T or C head is only a single step more complex.

This analysis rejects the need for extraneous 'clitic features'. The features that allow for m-merge are the same the ones that allow for head-movement. Due to independently motivated movement operations, an element either ends up in a position where m-merge is possible and cliticizes to the head, or does not and remains independent. This allows us to account for the clitic-word/full word alternation in pronouns in languages such as Welsh without having to posit two input forms. Although the DM premise of late insertion is problematic for of non-paradigmatic elements, elements that are realized differently in syntactically predictable ways should be able to have a single form in the numeration and only receive their different realizations during spell-out. This analysis allows paradigmatic late insertion to be responsible for the alternation between clitic forms and non-clitic forms. M-merge applies immediately after all unchecked features are filled in the derivation. This means that when each head completes filling out its projection, any appropriately specified adjacent Xmin/max elements can fuse into the X^0, making the X^0 ready for further head-movement operations.

M-Merge: When a functional head (F^0) has checked all its features and the syntactic derivation becomes inert, all immediately local Xmin/max elements subcategorized with the categorial feature (F) of the highest functional head are merged with F^0, creating a single morphologically complex syntactic node.

Matushansky (2006) argued that the output of m-merge is a fused feature bundle which has internal hierarchical structure but a kind that is only perceivable by the morphology. She also claims that m-merge is a spell-out operation. Although this may indeed be the case, the strong proliferation of phases that it entails may be less than ideal. She also suggested that m-merge

being a morphological spell-out operation possibly allows it to ignore the c-command/the Extension Condition and violate chain uniformity. Whether m-merge is morphological or syntactic, it must feed further syntactic movement, since head-movement is cyclic. In addition, I suggest that if we are using a DM style of spell-out, it is preferable to wait until the heads have become full to send them to spell-out. The DM method of vocabulary insertion is defined by the subset principle (Sauerland 1995).

Subset Principle: The phonological exponent of a Vocabulary item is inserted into a morpheme if the item matches all or a subset of the grammatical features specified in the terminal morpheme. Insertion does not take place if the Vocabulary item contains features not present in the morpheme. Where several Vocabulary items meet the conditions for insertion, the item matching the greatest number of features specified in the terminal morpheme must be chosen.

If this is the case, and m-merge is a function of feature bundling, it is preferable to have the richest form of the X^0 node—the one that has undergone m-merge the most times—to be sent to spell-out. However, what this also predicts is that wherever the final landing site of the X^0 node is, the form that is realized is the one where there is the greatest overlap of features. We can use this to account for the restrictions on morphological complexity and conjunction with special clitics, and in chapter 5 it will be integral in accounting for the alternation between independent and special clitic Middle Welsh object pronouns.

In sum, with a few slight adjustments, Matushansky's (2006) concept of m-merge can be beneficially used to describe fusion between X^0 and X-min/max elements. And by adopting this operation we have unified the analyses of both head-movement and cliticization.

1.6 A Sample Derivation

As an example I will show a derivation with V to v movement and pronominal cliticization to T. Below we can see the derivation proceeding in stages. As each projection is completed, adjacent

Xmin projections that are subcategorized with matching categorial labels undergo m-merge into a single complex X^0 node.

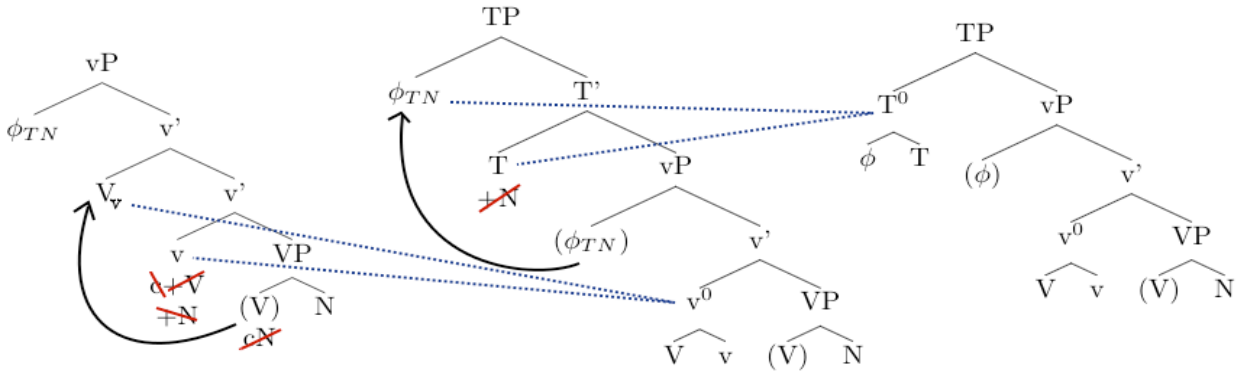

Figure 6. M-merge of V and v, and M-merge of T and φ

In the first phase we see the verb has selected its object complement. The VP is c-selected by v, which triggers head-movement of V into its spec. Then the pronominal subject is merged into its specifier. The vP now has two specifiers, but this will not stand. Because V is subcategorized for v, it undergoes m-merge with it, and as we see in the second phase, the vP structure is normalized.

The T head then c-selects the vP, and remerges the subject into its spec. Because the subject is a pronoun subcategorized for T, the T and φ bundle undergo m-merge and result in a structure with the subject pronoun cliticized to T.

2 The Special Part of Special Clitics

In the previous chapters I have proposed the idea that the behaviors of special and simple clitics are linked and that their linking has to do with the fact that they have the same phonological

quality. However, it is difficult to describe exactly what quality can account for the phonological shape of both special and simple clitics.

Anderson (2005) explains the lack of phonological independence of clitics as derived from their inability to project a phonological word node. Because of this they do not form an independent phonological unit and instead are unified with a neighboring prosodic word. Being subordinated to a neighboring prosodic word influences the distribution of stress, vowel length and syllable structure. Potentially, it could explain the restriction on coordination and morphological complexity. If phonological clitics are in a position where they must project a phonological word node, they can. And both Anderson (2005) and Chereches (2105) argue that a group of clitics and multisyllabic elements may project their own phonological word regardless of expected deficiency. Thus they will not be subordinated to a neighboring prosodic word and not undergo phonological reduction. Therefore, we expect to see conjoined and morphologically complex elements realized in a phonologically strong form. However, this does not explain the alternation in syntactic position that we find with second position special clitics, such as we saw in the last chapter with Middle Welsh infixed pronouns.

Instead, I argue that what we have are two types of phonological clitics: leaner-type and affix-type. Leaner-type phonological clitics are not clitics according to our diagnostics. They are free to be multisyllabic and bear stress, but they form a phonological phrase with their host. Affix-type are the ones that are highly restricted, to the point that they often have the same properties as affixes. I will suggest that the diagnostic tests we devised are often targeting this apparent affixal quality, which is linked to both the syntactic representation and the type of morphological spell-out used to realize their phonological shape.

In the first two chapters we endeavored to discover the distinctions between the various different lexical types and come up with diagnostics that would divide them. What we found was a clear split between syntactic words and syntactic clitics, but phonological reduction seemed to be a property of more things than the diagnosed phonological clitics. The constraints: stress and bisyllabicity, were very tentative. Although the set of things classed as 'weak pronouns' were more phonologically substantial than the canonical special clitic, they still were not particularly massive. Analyses of clitics, such as Hayes (1989) and Anderson (2005) include nearly all heads as phonological clitics, regardless of bisyllabicity and sometimes even stress. In these analyses, heads and clitics are included as part of the prosodic phrase that contains their specifier, and thus are often de-stressed and undergo phonological reduction. Under this analysis of phonological clitics, we expect linked words to also be reduced.

But special clitics are often so phonologically minimal that they are indistinguishable from affixes by anything but position. They often lack a syllabic nucleus, and if they lack a lexical host word, a dummy host is inserted to give them phonological support. Returning to Anderson's (2005) analysis for phonological clitics alone, he proposes that clitics can be incorporated into the phonological hierarchy at many levels. English auxiliaries, for example, are subordinated to their neighboring phonological phrase, while English possessive "s' is fused on the syllable level. The high level loose association is called a Free Clitic, while the low level segmental fusion is called an Affixal Clitic. Under my diagnostics, only the Affixal Clitics are true 'phonological clitics' while Free Clitics are free to be multisyllabic and have stress, and if there is no host to attach to, they can stand alone. These seem instead to be a slightly reduced subclass of phonological words. I refer to them as leaner-type, and the Affixal Clitics as affix-type, but only the affix-type forms are true phonological clitics according to my diagnostics. It is

this property which serves to differentiate between linked words and special clitics. Let us review the cases in which special clitics behave syntactically in ways that linked words do not.

Morphological deficiency was only poorly addressed in the first chapter. The existence of extra phonology or a prepositional head seemed to have little to do with clitic behavior. It was only when the diagnostics were being applied to real language data did a true morphological contrast come out. In Middle Welsh we found that second-position object clitics only appeared in second position if they were morphologically simple. Only φ-features appeared in second position. If there were any other features, such as a focus feature on a conjunctive pronoun, the object was realized in independent not clitic form.

We also found a difference in conjunction data that was difficult to attribute to simply phonological reasons. Linked words only appear as the first conjunct in a conjunction if the linarity of the conjunction was not disrupted, but special clitics seemed to simply be forbidden from being conjoined.

In order to account for these diagnostics, I argue that we must take the term 'affix-like' seriously. What we will see in the next section is that there are certain properties we expect of affixes, and these properties are often found of phonological clitics also. I suggest that this is because of a similarity in the syntax of affixes and phonological clitics, in that both are essentially simple feature bundles realized on a head. Although they attach themselves to this head through different means, uφ probes versus inherent φ bundles undergoing m-merge or Move via Agree—discussed further in section 2.2—once valued, uφ probes and inherent φ bundles are identical to the spell-out operation.

Although there is nothing that says a φ bundle must be spelled out as a phonological clitic, the way φ bundles are used during the spell-out operation makes them more likely to end

up becoming part of their head's main phonological word—and Affixal Clitic—rather than attaching to it more loosely.

2.1 The Morphophonological Interface

In section 1 of this chapter, we proposed a model wherein the realization as a syntactic clitic was determined by properties acquired during the derivation—such as head status. Connecting head-movement and cliticization implies that affixes derived via head-movement and clitics derived via head fusion have an identical relationship to the head with which they have fused. We also argued in the section on fused arguments that there is no reason to assume that there is any correspondence between phonological shape and whether something is a uφ probe or has inherent φ. An affix may have either, a clitic may have either, and an independent word also may have either. What this leaves us is with a heavy overlap between items identified as clitics and items identified as affixes.

Syntactically, affixes are conceptualized as features, usually uφ or uT probes, borne by functional heads. As the lexical head/functional head distinction has collapsed over time, affixes have remained as features mainly on heads which receive their lexical root via head-movement and m-merge. In English it is argued that tense and φ features are on the T head, but the T head itself has no realization, unless you assume 'to' is a realization of T when it is -Finite. Instead, the tense and φ features are realized in the output shape of the lexical verb or verbal auxiliary. The output shapes of these features are phonologically minimal to the extent that they often lack a syllabic nucleus and may also trigger suppletion. The use of a dummy head in situations where there is no lexical root associated with the X^0 node also shows the similarities between special

clitics and agreement affixes. English 'do' can host tense and φ-agreement features, while Middle Welsh *a*, or Old Irish *no,* both also dummy morphemes, host second position object clitics.

In Anderson's (2005) model, the representation of these features are 'stray segments' that must be fused to the lexical root at the syllabic level via word-level phonological processes. If we include suppletion in this environment it is difficult to argue that it is entirely a phonological operation. Instead it seems that certain realizations of X^0 internal morphemes cannot be explained simply by word-internal phonological processes, but must be explained by a type of morphological spell-out.

Strict DM style approaches fit the Anderson (2005) pattern, where the assembled morphemes are given individual phonological forms and then they are combined via word-level phonological processes. Suppletion is thought to be highly restricted, dummy morphemes and unpredictable morphological alternation are not addressed (*keep/kept*, for instance). However, there is a solution to the question of these odd spell-out forms that is entailed by including m-merge as a intra-syntactic operation. Returning to the subset principle, If complex X^0 nodes bundle their features together in an unstructured or semi-structured set during the derivation, before they are sent to spell-out, the first search of vocabulary items is a search for a representation of the entire X^0 node. If the vocabulary item with the largest feature subset match has a different stem, a different stem is inserted.

[√go, T:+past, uφ:3s] > go:√go, -past, -3s ; goes: √go, -past, +3s ; **went: √go, +past**

If there are multiple roots within an X^0 node, such as with a cliticization structure, multiple searches may begin, one focusing on each root, however the entirety of the features of the X^0 node are used in determining the output of the form. This is essential in determining the shape of clitics and making certain that they are distinct from independent pronouns. A pronoun that is

fused to a head at minimum contains the extra categorial label feature of a head. This predicts the possibility of widely different spell-out shapes for independent and fused pronouns, eg. Breton: *c'hwi* [2p] versus -*it* [2p, T:-past, √verb].

I make no claim about a strict mapping between syntactic shape and phonological output, however, the idea that a special clitic is identical to an agreement affix at the spell-out phase creates a tendency toward an affix-like realization for both inputs. Using the idea that a φ-feature bundle on an unrelated host X^0 is more likely to be realized as 'inflection', in the next section, I suggest a few ways to model the restrictions of coordination and morphological complexity that apply only to special clitics.

2.2 Move as Agree

Although the option of fusing to a head via m-merge is just as available for an independent φ-bundle as a morphologically complex φ-marked element, independent φ-bundles may have a further option which helps to explain the differences in the distribution patterns of special clitics and linked words. Roberts (2010) argues that the trigger for cliticization is Agree. The Agree relation copies the values of the features on the goal onto the head that bears the probe. When a clitic is the goal, the contents of the goal are exhausted, because clitics are defective, and the lower copy does not survive chain reduction so the features only appear on the head that bears the probe.

My two issues with this model are that, first, defectiveness is a problematic concept. Deficiency, a similar concept, I spent the first two chapters arguing against. And second, having this be Agree and nothing else is an excellent explanation for pro-drop, but is not particularly more parsimonious than *pro* as a reduced realization triggered by discourse, and it fails to

account for many other phenomena. It also assumes that simple pronouns must be more syntactically complex than clitic pronouns, which offends my basic assumption about numeration-neutrality.

However, with certain types of cliticization, such as special clitics in Wackernagel position, an Agree-type relation is ideal for a simple movement onto the C head. Roberts (2010) points out that with feature bundles Agree and Internal Merge are nearly indistinguishable. I propose to constrain this model by creating a subtype of Agree, $Agree_{\alpha}$ for which $Match_{\alpha}$ is defined as only forming a relation if all the features on the probe are valued by all the features on the goal—exhaustive Match.

$Match_{\alpha}$: Given a well formed Agree relation of which α and β are probe and goal respectively, where α's feature matrix contains [Att_x:___ . . . Att_{x+n}:___] and β's contains [Att_x: val, . . . Att_{x+n}: val] (where n=n) and has no lexical root node, copy val into ___ in α's feature matrix and delete β's feature matrix.

What this definition allows us to account for are four things. First, special clitics that undergo move as agree cannot be morphologically complex unless the probe specifies them as such. Second, special clitics that undergo move as agree cannot be conjoined, because $Match_{\alpha}$ cannot apply to a phrasal category. Third, because only the features are copied onto the probing head, the special clitic is functionally an inflectional affix and may be mapped to a -lexical head output, which is likely to be phonologically similar to the output for an inflectional affix. And fourth, as $Match_{\alpha}$ results in pronominal features appearing on an X^0 node, the output of $Match_{\alpha}$ is subsumed by the definition of a clitic-word: head or part of a head, and therefore will accord by the same diagnostics that apply to linked words.

If we assume that special clitics are positioned by means of Move via Agree they are then unable to be morphologically complex or conjoined and, by being feature bundles on heads, are

sent to spell-out as essentially identical to affixes. Although this does not determine an affix-like spell-out, it makes realization as an affixal/internal clitic more likely.

3 Return to Diagnostic Mountain

In Chapters 1 & 2 I proposed a set of diagnostics intended to separate out my four proposed lexical types.

Table 2. Diagnostic Chart

	Word	Simple Clitic	Linked Word	Special Clitic
Independent Stress	+	-	+	-
Can be Bisyllabic	+	-	+	-
Coordination, C-mod	+	?	restricted	-
Base/Theta position	+	+	-	-
Dislocation, Isolation	+	-	-	-
Pre-Verbal in V2	+	+	-	-
Object of Prep	+	+	+	+
Weak Referentiality	+	+	+	+

Some of these diagnostics clearly aligned with the analysis that clitic-words were head-linked. Others we had to offer a more complex interpretation, or mark as restricted, as the predictions were not as clear or reliable. However, using the formal model specified above, even the predictions made by the ambiguous diagnostics have become clear.

3.1 Bisyllabicity and Stress

As already discussed in the section on special clitics, the general definition of phonological clitic often contains elements that are bisyllabic or more and can be stressed. However, our diagnostics

are pinpointing a subtype of phonologically reduced elements, not just the ones that are included in the phonological phrase of another element, but the ones that are included inside the phonological word itself. These, the affix-type phonological clitics, are rarely multisyllabic and only are stressed if they are included in the stress assignment function for the phonological word.

This is more likely if the input to spell-out is a feature bundle. Feature bundles are more likely to only help determine the shape of the main lexical root, and not realize an independent phonological word. Although I am not arguing for any type of syntax to phonology determinism, the idea that learners reinterpret phonologically dependent elements as syntactically dependent, and strongly phonologically dependent elements as features alone seems to be well-attested by the evidence.

3.2 Coordination

Coordination has been a difficult diagnostic. Clitics are known to be unable to be coordinated, but head-status was unable to describe it, as there is no true prohibition against conjunction of heads (Johannessen 1998). The actual data is even more ambiguous. First conjuncts are able to appear in a clitic-word shape, and it seems to be the case that the more phonologically reduced a clitic-element is, the less likely it is to be able to undergo conjunction. But why should either of these impressions be the case?

When we include the idea of head-linking as the result of a derivational process we can see the complexity of this diagnostic in a new way. Progovac (1998), DeVries (2005), etc. alert us to the fact that conjuncts do not appear to have c-command relationships. DeVries (2005) argues that it is an instance of the 'invisibility' of paratactic material in general—in particular second conjuncts. In addition, according to Johannessen (1998) among others, the Coordinate

Structure Constraint appears to be semantically motivated. It may constrain interpretation through requiring moved coordinates to be reconstructible, but it does not restrict syntactic extraction.

When we apply our formalization of m-merge to this information, we can see that this predicts some of the patterns we found in our data. First, m-merge cannot apply to phrases or across phrasal boundaries. However, as conjunction phrases do not act like other phrases in a hierarchical manner, this suggests that m-merge could indeed apply to the first conjunct of a ConjP. We can refine our diagnostic prediction and say that clitic-words cannot be conjoined unless the first conjunct is immediately local to the head that it fuses to.

This still does not account for the difference between special clitics and linked words in their behavior with regards to coordination. Because conjunction is clearly not a phonological property, their phonological shape cannot explain this. However, when we propose the idea that monomorphemic feature bundles can undergo the process of Move via Agree, which can position a clitic in a position at a long distance from their original point of merger, conjunction should be forbidden. Agreement cannot move a conjunct. This accords with the phonological minimality, because it is linked to the fact that special clitics are only feature bundles and are spelled out in affix-like clitic forms.

3.3 Base/Theta Position

We have already explained how the diagnostic of base/theta position supports the idea that clitic-words are heads. But assuming cliticization via m-merge makes the predictions clearer. Although in some languages, such as Middle Welsh, the pronoun appears to be in the same position as a DP/NP argument, because it has morphologically fused to the adjacent head, it is syntactically no

longer in the same position as DP/NP arguments. Understanding this allows us to use the base/theta diagnostic more precisely.

To illustrate, we have seen how the base/theta diagnostic must be applied carefully in a language like Pembrokeshire Welsh. Here, full DP subjects can appear either above or below negation, but pronominal subjects can only appear above it—more local to the verb (Awbery 1988). Because both DP subjects and pronoun subjects usually appear in the same place, they seem to be in the same position, but a more careful approach reveals the inseparable relationship between the verb and the pronoun.

Definite Below Negation:

66)	*A ddath*	***ddim***	***y***	***gyfreth***	*i*	*rym*	*nes*	*bod*	*hi'n*	*y*	*Ionawr.*
	& come	**NEG**	**DET**	**law**	in	force	until	be	3sf'P	DET	January

'and **the law** didn't come into force until January.'

Definite Above Negation:

67)	*Ath*	*'y*	***nhad***	***ddim***	*i*	*mas*	*i*	*ddrychid*.
	go	**1sG**	**father**	**NEG**	1sA	out	to	look

'**my father** didn't go out to look.'

Pronoun:

68)	*Weles*	***i***	***ddim***	*y*	*fudde*	*honno*	*ariod.*
	see	**1sA**	**NEG**	DET	churn	DEM	ever

'**I** didn't see that churn ever.'

3.4 A' Movement and Pre-Verbal in V2

Any sort of A' movement, dislocation, isolation and clefting, can move the clitic-word out of range of the head it is subcategorized for undergoing m-merge with. Outside of the local relationship, it cannot undergo m-merge. However, language change can result in one of these positions becoming a clitic position, if the clitic becomes subcategorized for a local head. For example, the pre-verbal position in V2 can be a clitic position when the category label feature on the clitic is C. However, if a pronoun moved into preverbal position cliticizes onto the C head,

this may leave the V2 constraint on the language unsatisfied, and trigger more changes, such as the loss of V2.

We can see this happen in the transition from V2 Middle Welsh to V1 Modern Welsh. In Middle Welsh, initial position was not a clitic position. However, in Early Modern Welsh the independent pronouns fused with the C head, and as V2 was lost, these pronouns became a declarative sentence-typing particle.

In Middle Welsh the pre-verbal position only hosted independent pronouns and full NP/DP/PP phrases. The pronouns in this position could be used as expletives.

Middle Welsh Regular Pronominal Use:

69)	*miui*	*a*	*af*	*i'th*	*le*	*di*	*(*11th Century)
	1sR	P	go.1s	to'2s	place	2sA	
	'I will go to your place' (PKM)						

Middle Welsh Expletive Use:

70)	*yvo*	*a*	*uu*	*y*	*kyuriw*	*dymesdyl*	(1540s)
	3smR	P	be	the	such	storm	
	'there was such a storm' (*Rhyddiaith Gymraeg* i. 32.16-17)						

In the 1600s this initial reduplicated pronoun combined with the particle that separates the pre-verbal element in a V2 structure from the verb. At this point it seemed to be even less than an expletive and does not even seem to have discourse value.

Bleached Use No Particle:

71)	*Efo*	*ddyg*	*dy*	*wyr*	*di*	*naw*	*o*	*wyn*	*yn lledrad*	(1619)
	3smR	take	2sG	man	2sA	nine	of	lambs	theievishly	
	'your husband stole nine lambs'					(Slander Case, Montgomery Sessions)				

In Modern Welsh the reflex of this pronoun has lost any pronominal or discourse function. Bleached of its φ features and even of its expletive function, *fe* marks a declarative sentence.

Declarative Particle Use:

72) *fe* *welodd* *Arthur farchog* (Modern)
P see arthur knight
'Arthur saw a knight'

What we see here is the diachronic transition predicted by the m-merge analysis. Due to associating with the overt C head, the pronoun is subcategorized for C. After a stage where it regularly undergoes m-merge with the C head, it loses its pronominal function and becomes the C head itself.

3.5 Object of a Preposition

The object of a preposition diagnostic is also clarified by the use of the fusion model. When we looked at the origin of conjugated prepositions we saw that the prepositions must have undergone fusion with pronouns. It is possible for a language to have pronouns cliticized to prepositions if the pronouns are subcategorized for fusion with P. But having fused pronouns with prepositions may be rarer due to the competition with the productive full DP/NP object pattern. Learners are likely to move away from analyzing pronouns as fused to match the patterns of the full DP/NPs. For example, the Welsh preposition *i* went from a conjugating form in Middle Welsh to a mostly non-conjugating paradigm in Modern Welsh due to phonological factors and the competing analysis provided by full DP/NP objects.

Table 5. The Paradigm of the Preposition *i* 'to' in Middle and Modern Welsh

	Middle Welsh	**Modern Welsh**
1s	*ym, im*	*i mi*
2s	*ytt, itt*	*i ti*
3sm	*idaw, itaut*	*iddo fe/fo*
3sf	*idi*	*iddi hi*

1p	*ynn, in*	*i ni*
2p	*ywch, iwch*	*i chi*
3p	*udud, udu, udunt*	*iddyn nhw*

Thus, although this model predicts prepositions fused with pronouns, due to learning factors it may be a less common form of cliticization.

3.6 Summary

Using the analysis presented in this chapter, we can account for the behaviors of the diagnostics and make further predictions about how we expect clitic-type elements to behave.

4 All Clitichood is Morphosyntactic

In this chapter we have discussed the implementation of defining the class of clitic-words as a heads or parts of heads. We have motivated and defended an analysis for syntactic clitics that are initially merged as arguments, which subsequently undergo m-merge with a local head. We have made a specific allowance for special clitics as morphologically simple feature bundles which can assign their features to a head via the process of Move as Agree. In doing these things we have been able to define what we mean by syntactic clitics and phonological clitics in straightforward and consistent ways. Syntactic clitics are incorporated into a distinct X^0 host, and phonological clitics are often syntactic feature bundles but they are always realized as affix-type clitics, subordinated to the phonological word of their host. Our analyses show that syntactic clitics pattern like heads for a reason, and phonological clitics pattern like affixes for a reason as well.

What this chapter has shown is that the confusion attributed to clitics—are they words or are they affixes? Can they be both and also neither?—is explicable if we understand their

underlying properties. Like words, clitics can merge initially into specifier or complement position. Like affixes, they can be part of the realization of a complex head.

My definition of clitichood supports my prediction that there should be no inherent referential differences between independent and clitic pronouns. Because the syntactic input is identical and the realization only differs depending on whether it is sent to spell-out as an XP or as part of an X^0 node, the referential qualities inherent to this element in the numeration should be identical to its referential qualities in the output.

A theory, though, is never truly tested until it encounters real language. In the next chapter I will explore the predictions made by this theory on Bayer and Brandner's (2008) data, and also data from French—old, standard and modern colloquial varieties—and discuss how using m-merge in our approach to diachronic change can account for the shifting behaviors of pronouns throughout the history of French.

CHAPTER 4

CLITICIZATION IN THE REAL WORLD

In the previous chapter we proposed an analysis of clitic-words where Xmin/max elements can be initially merged as a phrase into a specifier or complement position, undergo phrasal movement, then undergo m-merge to incorporate into an X^0 node. This analysis is particularly suited to account for situations where there is variability between a clitic expression and a non-clitic expression of a morpheme. It is also suited to describing situations where there are independent reasons to believe that the element is merged in specifier or complement position by edge or theta features. Though the process of cliticization via m-merge process may seem specialized, it is simply an extra application of the independently motivated syntactic operations and features underlying head-movement. Cliticization via m-merge provides insight into the analysis of problematic data, both synchronic and diachronic.

In this chapter I show that cliticization via m-merge serves to account for the data in Bayer and Brandner's (2008) analysis of singly filled Comp in Middle Bavarian and Lake Constance Alemannic as introduced in chapter 3. Additionally, I show that cliticization via m-merge can be a tool for analysis of both the synchronic grammar of Standard and Colloquial Quebec French, and also provides insight into the diachronic transition from the independent pronouns found in Old French to the affix-like and head-linked elements that are realized today. M-merge provides insight into various phenomena such as relative pronouns functioning as C heads, cliticization with inversion, and the diachronic transition from independent word to affix.

1 Cliticization via M-merge of WH to C in Germanic Dialects

Singly filled Comp in Middle Bavarian and Lake Constance Alemannic has never been attributed to cliticization. However, the contrast realized in these dialects is one that matches the predictions made by the definition of cliticization via m-merge almost exactly. In these languages, doubly filled comp is the default situation for embedded interrogatives. The WH-phrase is always followed by *dass,* except when the WH is monomorphemic.

WH-types that can co-occur with *dass*: WH-PPs, WH-DPs (what kind of idiot)

WH-types that appear alone: *wer* "who-NOM", *wen* "who-ACC", *wem* "who-DAT", *wie* "how", *wo* "where", *warum* "why"

X-bar Status	Subtype	DFC-restriction
wh-phrase	Wh-DPs, Wh-PPs	best with overt *dass*
wh-word I	warum 'why', wieviel 'how much', wem	middling
wh-word II	wer, wen, was, wie, wo	worst with overt *dass*

73) *I woass it* ***wieviel*** ***dass*** *er für des Auto zahlt hät* (ALM-WH I)
I know not **how-much** **that** he for the car paid has
'I don't know how much he paid for the car'

74) *I wett gern wisse,* ***wa*** *i do uusfülle muss* (ALM-WH II)
I would gladly know **what** I there out-fill must
'I'd like to know what I have to fill out there'

According to Bayer and Brandner (2008), these solitary, monomorphemic WH-words serve both as an interrogative pronoun and as the complementizer of the clause. In other words, they function both as an element in a phrasal position—an argument—and an element in a head position—the C(+Q) head.

These facts can be described using our proposal of m-merge applying to Xmin/max elements only and forming fused X^0 nodes. I use Bayer and Brandner's (2008) insightful intuitions to motivate a cliticization analysis for their data.

The Bayer and Brandner (2008) model is simple. WH-words are marked with a latent C feature, which, via the processes of head-movement as defined by Koeneman (2000; 2002), Bury (2002), Fanselow (2002) and Brandner (2004), causes monomorphemic WH words to remerge to the TP, supplanting an externally merged C.

Bayer and Brandner's (2008) explanation is insufficient in two ways. Although it serves to account for the data, it relies upon monosyllabic WH words having a different syntax from polysyllabic ones and on the unmotivated idea of a 'latent' categorial feature. Both of these ideas are problematic.

Bayer and Brandner (2008) argue that the morphological shape (monosyllabicity) is "typical for function words," which explains why monosyllabic ones are mutually exclusive with *dass*, and complex and polysyllabic WH words co-occur with *dass*. But according to their report, *warum* and *wieviel* can both appear without a *dass* complementizer, though speakers accept this less readily than with shorter forms. Thus monosyllabicity is insufficient to describe which WH words realize C properties and which do not. Using the quality of being monomorphemic or Xmin/max is preferable.

Second, if monosyllabicity were a precondition to undergoing head-movement as they define it, then we might expect to see the distinctions between the X-bar statuses of the WH words become salient. However, they do not argue that an element must be a monosyllable to undergo head-movement or project a head—and quite rightly, or words such as *aufeinanderprallen* 'collide' might never reach second position in the sentence. But by picking out the specific WH words which have these features individually we lose the sense of WH words as a class and make the analysis unextendable to other sets of elements. The analysis therefore becomes ad hoc and fails to have any explanatory value.

The idea of the latent categorial feature is also problematic. Calling it 'latent' attempts to get around this, but it inherently violates the idea of the exhaustive feature checking requirement. All the features of a head must be checked before that head can be selected by another head or the derivation fails. Using latent categorial features to motivate head-movement alone does not encounter this problem. Because head-movement is inherently local, this latent categorial feature is simply the last feature to be checked. It triggers self-remerge, and then is exhausted. However, in Bayer and Brandner (2008) this analysis of head-movement is extended to WH words, which are initially merged in argument position and then self-remerge to C. With an object WH, such as the one in (85), this becomes long-distance head-movement, and means that the WH was merged into spec bearing an unchecked categorial C head.

75) *I wett gern wisse, wa i do uusfülle muss* (ALM-WH II)
I would gladly know what I there out-fill must
'I'd like to know what I have to fill out there'

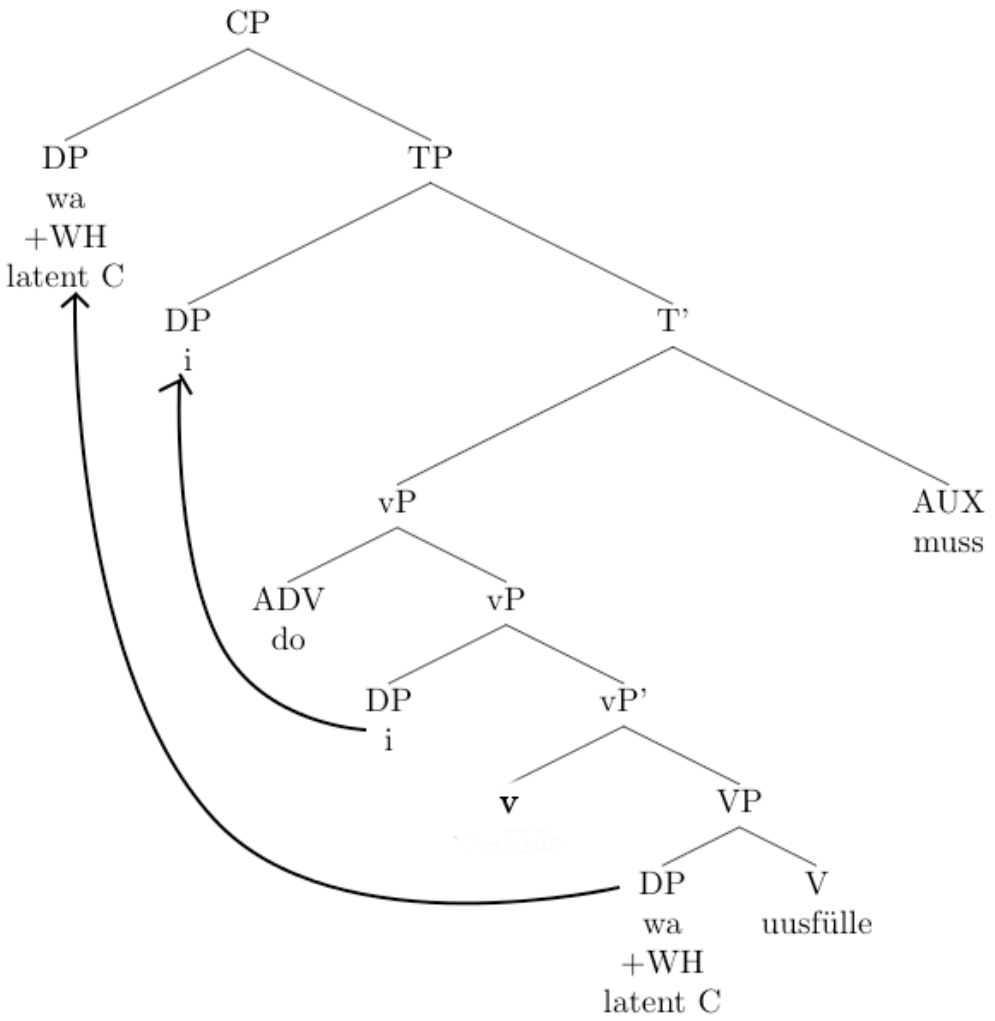

Figure 7. Bayer and Brandner-style Long Distance C-Selection

The *wa* 'what' is in object position before it is remerged into C and thus must have been merged early on in the derivation with its C feature remaining latent and unchecked even as its phrase was c-selected by other heads.

The other problem is simply that this analysis could lead to an undesirable proliferation of c-selection features. Categorial selection features should be special and distinct. They form the spine of the sentence. The relationship between a head and its complement differs from the

relationship between a head and the specifier that it has merged. Heads with unchecked c-selection features should not be buried inside the tree.

Although Bayer and Brandner's (2008) analysis has the major problems outlined above, it resonates in many ways. Although things merged in specifier position should not be c-selecting heads, we want some to be able to be like heads in specific ways. Although monosyllabicity is not a sufficient quality of head-likeness, the idea that certain lexical elements can be mistaken for heads by learners is appealing. If we reexamine this data through the lens of cliticization via m-merge we can capture these intuitions without sacrificing precision.

The m-merge analysis for these data is simple compared to Bayer and Brandner (2008). The WH-elements are in no sense heads, but the entirely lexical class is subcategorized for m-merge with the C head. This subcategorization is marked by an inert feature—one that does not drive any sort of movement. WH moves into spec of C via the usual method and then, once it is in a local relationship with C, if it is Xmin/max it undergoes m-merge.

76) *I wett gern wisse, wa i do uusfülle muss* (ALM-WH II)
I would gladly know what I there out-fill must
'I'd like to know what I have to fill out there'

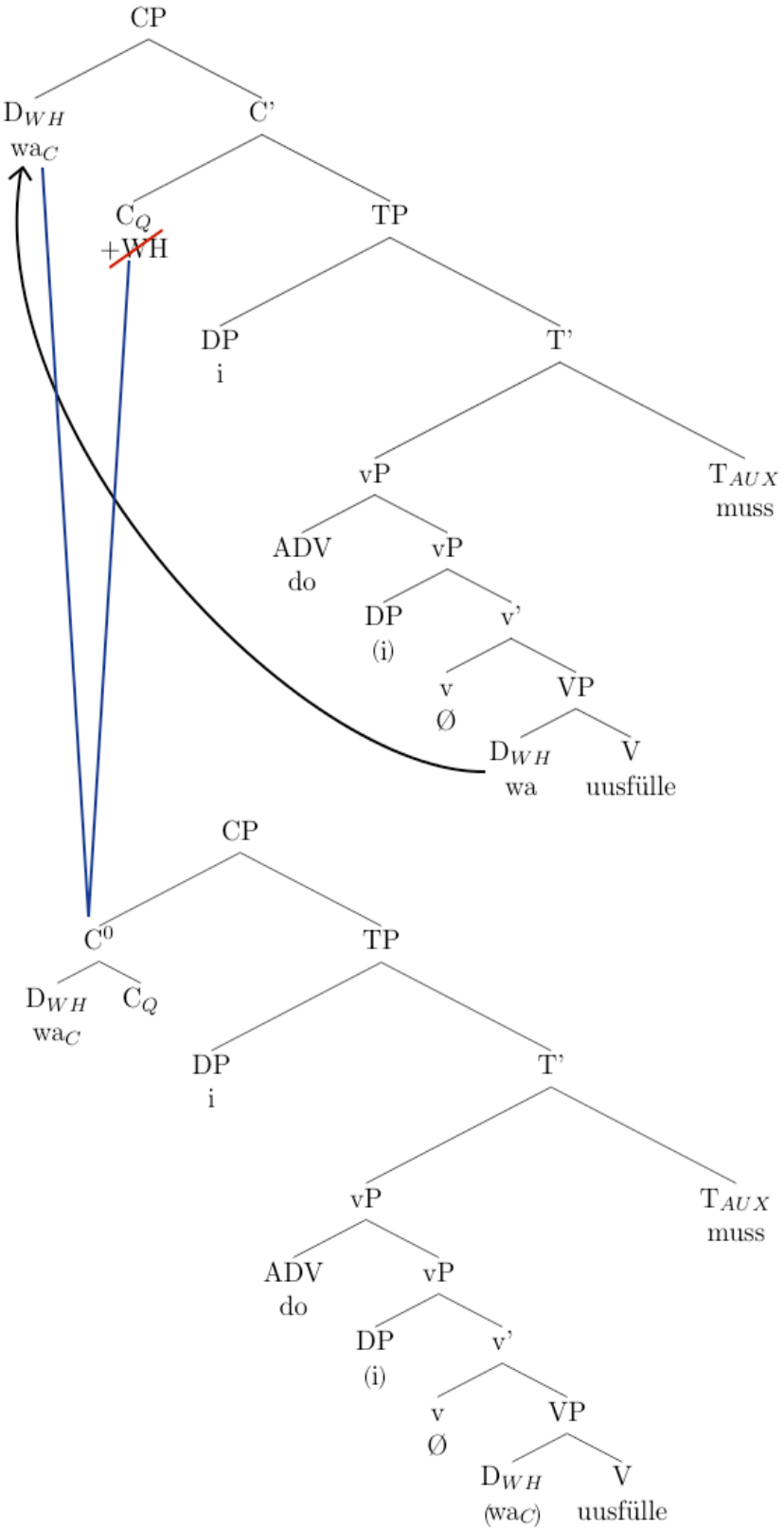

Figure 8. WH Becomes the C-head via M-merge

The optionality with *warum, wievel,* and *wem* falls out of their semi-phrasal status. Although individually, each one appears to be Xmin/max and could undergo m-merge with the C head—and sometimes do, these particular WH words are semantically more like the set of WH phrases than they are like the set of monomorphemic WH words that must fuse with the C head. *Warum* 'why', and *wieviel* 'how much' both are not only multisyllabic and more likely to be interpreted as complex, they substitute for phrasal or adverbial adjuncts. *wem* 'who-DAT' is more prepositional than the argument type WH words *wer* and *wen* which are bad with *dass*.

This proposal takes the intuitions in Bayer and Brandner (2008) and improves upon them in four major ways. First, cliticization via m-merge employs m-merge, an operation that sees structural complexity. Instead of using monosyllabicity as a diagnostic for head-likeness, we can use the quality of being non-branching. Xmin/max elements are like heads in that they are Xmin and like phrases in that they are Xmax. All their features have been checked.

Second, not only does this render monosyllabicity irrelevant, m-merge applying to X^0 and Xmin/max elements allows us to lessen the arbitrariness of separating the outcome of different sets of WH phrases. We can propose that all WH words are marked as available for m-merge with C, but the Xmax WH elements are not in a structural relationship with C where m-merge can apply. The Type I WH-words, a set containing the most polysyllabic and multimorphemic WH words, are sometimes interpreted as Xmax rather than Xmin/max, and in such cases are unable to fuse with C.

Third, because we rely on long distance phrasal movement to put the WH word in a position where it is local to C and only then fuse it to the C head, we maintain the distinction between phrasal movement and head-movement. As m-merge is part of head-movement, it is a local operation. Although we have Move via Agree as an alternative long distance option, that is

unnecessary since WH movement to C is always motivated. When elements are both phrases and heads the situation can become confused, but with the m-merge analysis, elements are either phrases or heads and the moment of transition from one to the other is specific and grounded in its operation. An Xmin/max element, prior to m-merge, is a phrase and may only undergo phrasal type movement. But once it m-merges with a head, it is part of an X^0 node and no longer has phrasal status.

And finally, as m-merge was originally intended to capture head-movement, our analysis fits the intention of Bayer and Brandner (2008) to explain this WH/C alternation using the mechanisms of head-movement. But unlike Koenman's (2000; 2002) formulation of head-movement, m-merge does not require the elements becoming part of a head to bear categorial selectional features. Using m-merge, we can maintain the association between these WH words and the C head without proliferating unchecked categorial selection features throughout our tree.

In these four ways, cliticization via m-merge retains many of Bayer and Brandner's (2008) intuitions and offers a more streamlined and less costly model with which to describe it. However there is still one area unique to cliticization via m-merge that requires further investigation. In Bayer and Brandner (2008) the monosyllabic WH word selected the TP in place of a C head. In the m-merge model an independent C head must be merged before the WH element can move to its spec and then m-merge with it. If this is the case, an obvious question comes to mind: why do we see no reflex of *dass* in the fused WH and C node? If the C node is still there, why has the WH entirely supplanted it?

If we assume Late Insertion for paradigmatic morphology, which allows us to account for agreement, case, tense, and φ-features using the output of the syntactic derivation, we can describe C as a host for feature bundles with no attached lexical root. *Dass* is the default

realization, as it is used in both declarative and interrogative contexts. It expresses no features. C has no lexical root to trigger an independent search, and there is no particular WH+C reflex. Therefore, because the subset of features is the largest, when the C head is fused with the WH, the WH word is realized.

[C, √WH, φ:3s, case:NOM] searches >

dass[C]; ***wer*[√WH, φ:3s, case:NOM];** *wen*[√WH, φ:3s, case:ACC]

In this section we showed that the data from Middle Bavarian and Lake Constance Alemannic, though not obviously clitic-like, can be accounted for through cliticization via m-merge. After explaining our dissatisfaction with Bayer and Brandner's (2008) account of the data, we showed how an m-merge analysis could maintain the intuitive connections and the explanatory adequacy while reducing the number of independent assumptions required.

2 French Subject Pronouns

Originally, in this dissertation, our motive was to identify a way to group elements that were not quite independent pronouns, but were also not clearly clitic-like. Defining weak pronouns has always been difficult, but there are many lexical items that fit neither category. French subject pronouns are another set of elements that are not traditionally clitic-like, but also don't pattern the same as a NP/DP subject.

Although there is some consensus that French object pronouns are clitics, linguists have debated the status of the subject pronouns since 1920 at least (Vendryes 1920/1950). The conflicts fall into three areas:

1) Morphological — Are the borders between the φ-marked element and the host more like a word boundary or word internal phonology?

2) Syntactic — Are the pronominal elements in the same place as DP/NP subjects?

3) Pragmatic — Are the pronominal elements the argument of the verb or are they agreement, i.e. if there is an NP/DP in addition to the pronominal element is this NP/DP element dislocated?

The morphological argument is based on the assumption that affixes—word internal morphology—are necessarily agreement morphemes (uφ). I assume that φ-features can be realized in any lexical shape, and that there is no reason that features valued via agree would look different when passed to vocabulary insertion than inherent φ features.

Bresnan and Mchombo (1987) present plausible diagnostics for differentiation between grammatical agreement (uφ) and anaphoric agreement (φ). These diagnostics are based on syntactic locality and other relationships that are specifically defined in the model, not on patterns found in the morphology, and therefore are compatible with my analysis.

Bresnan and Mchombo (1987) propose four useful syntactic diagnostics for distinguishing grammatical agreement (uφ) from anaphoric agreement (φ).

1) Grammatical agreement must be local to probed DP

2) Grammatical agreement should appear even when the argument it is linked to is being questioned.

3) Grammatical agreement can replace parts of idioms.

4) Grammatical agreement does not cause the argument it is agreeing with to be displaced to the periphery

These four diagnostics depend on the idea that grammatical agreement is a syntactic relationship between two elements that is limited by the range of an agreement probe and on the

theory that grammatical agreement co-occurs with its target, even if the target is *pro* or a trace, and is not initially merged in a theta-marked position.

Using the tests from chapters 1 and 2 and the tests from Bresnan and Mchombo (1987) we have a reasonable method for determining the category of any φ-marked item. These categories come in at least five flavors.

Table 6. Five Flavors of φ

	word	**clitic word**	**affix**
φ	pronoun	clitic pronoun/weak pronoun	fused pronoun
uφ	(agreeing word)[8]	agreement head	agreement morpheme

All of these flavors are possible in a language.

2.1 The Pragmatic Argument

The pragmatic argument seems straightforward and useful in distinguishing the function of φ-marked morphemes. But though it is useful, it is not, in fact, simple. The basic premise is that if there is both a full NP/DP subject and a φ-marked element, and the full NP/DP subject is not contributing any extra pragmatic meaning to the sentence, then the φ-marked element must be agreement.

This diagnostic can be problematic. Cook & Bildhauer (2011) showed that, even on living languages with native speakers, tests determining the pragmatic effect of a dislocated argument were unreliable. Certain syntactic facts can help this diagnostic. For a language like

8 The existence of agreeing words is debatable depending on how we think of such things as reflexives. If we assume that reflexives which have a binding relationship rather more like agreement than co-reference, and these reflexives are independent words, then it seems that agreeing words do exist. However, it is also possible to assert that even if they are constructed via an agreement relation, they are not agreeing words but simply agreement morphemes on a reflexive stem. In my opinion, the distinction is immaterial.

Old Irish, where the C head must be filled and either a C element or a tensed verb is initial to the sentence, it is obvious that any element previous to either initial C or initial V is dislocated. For a language like Old French, however, where initial subjects range from 40-50% in Rinke and Meisel's (2009) two corpus studies and preverbal elements appear approximately 86% of the time, the decision is trickier. It has been argued that the preverbal position in V2 languages is not always pragmatically marked, particularly for subjects (Mohr 2005). In fact, Rinke and Meisel (2009) argue that in Old French post-verbal subjects are more strongly pragmatically marked as new information than preverbal ones. Languages like Old French, with an active left periphery that overlaps with a potential default subject landing site, make it very difficult to decide whether a subject NP/DP is dislocated or not.

A third wrinkle with the pragmatic diagnostic is the fact that what we predict for a language that requires an overt realization of the subject and a null subject language is different. In a null subject language, a subject is not indicated unless it is contrastive in some way. But how can we tell if a language has null subjects with agreement, or overt subjects where topics frequently double pronominal subjects?

For similar languages it may be possible to use statistical patterns to decide whether φ-marked elements are more likely to be arguments or agreement. Gotowski (2015) in her argument that modern colloquial French is not a null-subject language, proposes that we can differentiate between a null-subject language and a non-null subject language by looking at the rates of overt subjects. In Italian, which has been convincingly argued to be a null subject language, adult speakers produce overt subjects 46-56% of the time (Valian 1991). Gotowski's data, in contrast, has a doubled subject in modern colloquial French only approximately 5% of the time. A 5% rate, however, is far too low to account for all the possible 'contrastive' uses of an

overt subject, which suggests that subject doubling is only used in dislocation structures, as a repair, or to add extra emphasis.

2.2 Getting Down to French

The status of subject pronouns in Standard French is notoriously difficult to identify. However, if we employ the diagnostics discussed in the previous chapters and the last section I argue that we have evidence to claim that French subject pronouns are inherent φ arguments that first move to the specifier of T and then undergo Move via Agree to appear on the C head.

French subject pronouns fit our diagnostics for clitic-words in three ways. They cannot appear in isolation, in dislocated contexts or cleft structures, and they cannot be coordinated.

Additionally, although in declarative sentences they appear to be in the same position as full NP/DP subjects, in yes/no interrogative sentences we can see that they are not. DP/NP elements can appear freely as answers to questions or independent phrases. Subject pronouns, however, do not appear, instead their person and number is realized in the object form.

77) a. *"Qui parle français?" "*Je."*
"Who speaks French" "*I"

b. *"Qui parle français?" "Moi."*
"Who speaks French?" "Me."

Cleft structures and dislocation structures also employ the object form.

78a) *C'est moi /*je que vous avez entendu et non pas votre femme.*
It-was 1sO C 2p have heard and not your wife
'It was I who spoke to you, not your wife.'

78b) *Moi, je dessine une image.*
1sO 1sS draw a image
'*I* draw a picture'

With conjunctions we find in spoken French that there are two generally acceptable possibilities. Neither involve conjoining subject pronouns.

79a) ***Toi et moi/*j'*** ***avons*** *été* *surprise* *quelques* *fois* *par des* *choses*
2sO and 1sO have been surprised a few times by of things
'You and I were surprised a few times by things.'

79b) ***toi et moi/*je*** ***nous*** ***avons*** *besoin des* *décisions*
2sO and 1sO 1pS have need of decisions
'You and I need decisions.'

In declarative sentences there is no apparent difference in the position of subject pronouns and full NP/DP pronouns. However, in yes/no questions the structure is completely distinct. Subject pronouns now appear post-verbally (81a), while full NP/DP subjects become the object of a cleft construction (81b).

80) a. *Tu peut voir la caméra.*
b. *Jean peut voir la caméra.*
'You/Jean can see the camera.'

81) a. *Peux-tu voir la caméra?*
b. *Est-ce que Jean peut voir la caméra?*
c. ***Peut Jean voir la caméra?***
'Can you/Jean see the camera?'

What we can see from this, without any major assumptions, is that subject pronouns are a distinct class, and that their ability to associate with or remain in certain positions is different from the abilities of full phrasal NP/DP subjects.

Bresnan and Mchombo (1987)'s four diagnostics for grammatical agreement show that these elements are not uφ agreement affixes. Bresnan and Mchombo (1987)'s four diagnostics are such that a single violation is enough to indicate that the element is anaphoric, and with Standard French subject pronouns, the violations are even more prolific.

The Four Diagnostics:

1) Grammatical agreement must be local to probed DP

2) Grammatical agreement should appear even when the argument it is linked to is being questioned.

3) Grammatical agreement can replace parts of idioms.

4) Grammatical agreement does not cause the argument it is agreeing with to be displaced to the periphery

Since the appearance of subject pronouns in Standard French is very restricted, in some ways it looks like agreement. The first diagnostic, for example, that grammatical agreement must be local to probed DP, is undeniable as long as we assume a *pro* merged in Specv. Since the position of these purported affixes c-commands the vP, it is therefore clearly local to any element, overt or covert, merged in Specv.

However, French subject pronouns fail the second diagnostic. Grammatical agreement should appear even when the argument it is linked to is being questioned. But this is not the case for Standard French.

82) a. *Qui a dit Jean ne **l'**aime pas?*
b. **Qui a dit Jean **il** ne **l'**aime pas?*
'Who said Jean didn't like him?'

In these situations the pronominal marker can only be anaphoric.

French subject pronouns also fail the third diagnostic. They cannot replace parts of idioms.

83) *Les carottes$_i$ elles$_i$ sont cuites.*
*with the reading 'The game is up'

There is much debate over the evidence for the fourth diagnostic. Grammatical agreement should not cause the argument it is agreeing with to be displaced to the periphery.

In sentences where a full NP/DP or an independent (object) pronoun is resumed by a subject pronoun, it is difficult to determine the location of the NP/DP/Independent pronoun. But

prosodic evidence collected by Deshaies et al. (1993), Guilbault (1993), and De Cat (2007) suggests that even for Quebec French, whenever an NP/DP is resumed by a subject clitic, it is dislocated.

In sum, as standard French subject pronouns violate three of the four diagnostics for grammatical agreement, these elements must be anaphors. This contradicts Auger's (1994) analysis which motivates an analysis of Quebecois subject pronouns where they are agreement markers (uφ) but not necessarily affixes.

The strong restriction on coordination suggests that a straightforward m-merge analysis is unsatisfactory. If the subject pronoun m-merged with C we would expect the first conjunct to appear in clitic-shape and the second to appear in the object form. If it m-merged with T we would expect the opposite. But in standard French neither of those patterns are found.

The best analysis to account for this data explains why subject pronouns are so frequently confused for agreement, it is because they land in their final position by means of Move via Agree. The pronoun merges initially in Specv, then moves to SpecT like any NP/DP subject. If it is a feature bundle with no phrasal complexity or other morphemes, it undergoes Move via Agree and its features are realized on the C head. If a conjunction has moved to SpecT it cannot undergo Move via Agree and therefore is realized in object pronoun shape, ala (79a).

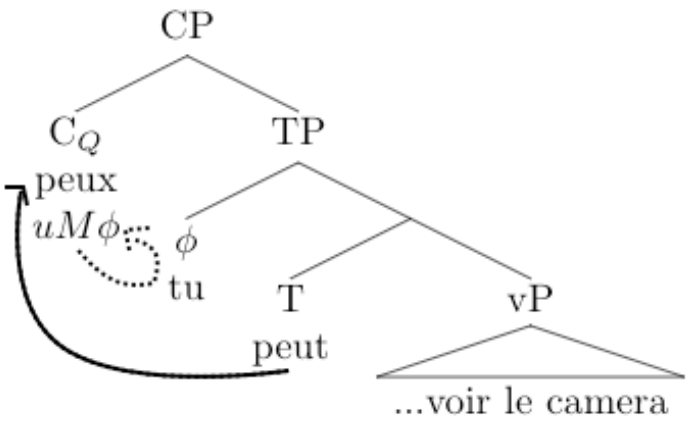

Figure 9. Move via Agree SpectT to C

84) *Peux-tu voir la caméra?*
can-2s see the camera
'Can you see the camera?'

In declarative sentences, the subject is the only overt part of the C head. Object pronouns and negation can appear between the subject and T. In a declarative sentence, the subject pronoun does not act like it is cliticized to any 'thing'—thing being an overt lexical item. When the verb raises to C, then the subject now is obviously attached to the verb, but in both cases its features appear on C.[9]

3 Cliticization as Diachrony

The changes in the behavior of clitic pronouns from Old French to modern colloquial French dialects illustrates the role of cliticization via m-merge as a diachronic process. Fuβ (2005)

9 Hale (1990) offers what may possibly be an insightful reasoning into why subject cliticization is not as popular as subject agreement. Basing his pronominal fusion analysis on Baker (1988) he points out that incorporation is a syntactic movement—Move α for heads—and therefore leaves a trace at the point of initial merger. In a language such as Irish, which is verb initial, the verb raises over the subject and therefore can properly govern the trace. A head final language, contrarywise, can form an agreement relation but the verb cannot properly govern a subject. Object cliticization, however, is always available, as the base position for an object is always properly governed by the verb.

argues that the transitional stream follows the path: independent word to true clitic to agreement affix. But looking at our chart in table 6, the transitional process—shown in table 7—seems far more complicated.

Table 6. Five Flavors of φ

	word	**clitic word**	**affix**
φ	pronoun	clitic pronoun/weak pronoun	fused pronoun
uφ	(agreeing word)	agreement head	agreement morpheme

Table 7. Transitions Between Realizations of φ

	word		**linked word (+lexical root)**		**affix (-lexical root)**
φ	pronoun	—>	linked word/weak pronoun	—>	fused pronoun/special clitic
uφ	(agreeing word)	—>	agreement head	—>	agreement morpheme

An element can progress down any one of these routes, and at any point can shift from φ-bearing to φ-probing. I argue that we can see a transitional pattern in French which goes from Old French pronoun to Standard French clitic-word positioned by Move via Agree and then, in modern Quebec French, I will argue, becomes uφ agreement on C and also a polarity head.

In Old French the subject pronouns are independent words, not clitic-words. Although they pattern differently from DP/NP subjects, their distribution is related to the discourse-relevance status of pronouns and how that interacts with the discourse properties of Old French word order.

In Old French subject pronouns are not compulsory and thus mainly used for clarification or emphasis. Full DP/NP subjects are approximately equally likely to appear in pre- and post-verbal positions. But subject pronouns only rarely appear post-verbally (Rinke and Meisel 2009). Rinke and Meisel say that "pronominal subjects are always adjacent to the finite verb and occur

systematically to the left of short adverbs or of the negator," which they argue is support for interpreting the pronoun as cliticized to the verb.

85) *Lors* *monterent* ***les barons*** *aus* *chevaus.*
so get.on **the barons** on.the horses
'So the barons got on their horses.' (Villehardouin, 13th century)

86) *En* *la* *seue* *terre* *ne* *sont* ***il*** *mie* *entré.*
in the her land NEG are **they** not entered
'They did not enter her land.'

Intriguingly, particularly with mind to subject clitic inversion in interrogatives, subject pronouns in Old French often co-occur with a co-referring DP/NP subject in questions.

87) *L' aveir* *Carlun* *est* *il* *apareilliez?*
the treasure Carlun is it made ready
'Is Charles' treasure made ready?'

This is another place where pronouns appear to not be in the same positions as full DP/NP subjects, suggesting that the subject pronouns may be clitic-words.

However, there is insufficient evidence for this. Although appearing in the post verbal position is infrequent, it is not impossible. Old French has been argued to be a V2 language, but also a language with an active CP layer (Kaiser 1995). Rather than arguing that the pronoun distribution is a result of cliticization to the verb, I argue that restrictions on the positions of appearance of pronouns are related to their discourse status.

Rinke and Meisel (2009) point out that post verbal subjects usually appear with verbs of motion and intransitive verbs—situations that are ripe for presentational structures. The topic of the sentence is the place or other contextual element, and the subject is the new information. Some examples are clearly presentational.

88) *et* *morut* *li* *quens.*
and died the duke
'And the duke died.'

Pronouns, unlike R-expressions, are nearly always old information. This means that they should only appear in discourse structure compatible with old information. In particular, a presentational structure is not one we would expect to see with pronouns. In a language like Old French, the preverbal position is topical or default, and therefore available for pronominal subjects, but the post verbal position is special. This does not just explain the distribution of full NP/DP and pronominal subjects with regards to each other, it also suggests a reason why post-verbal pronouns, when they do appear, are in close proximity to the verb. They do not undergo any sort of heavy NP shift or discourse triggered NP rightward movement.

Some of the structural debate about Old French becomes less troubling if we say that Old French looks like Welsh with a more active CP layer. The verb's final landing site is Agr' above TP, and the subject is in SpecT, unless it is A' moved into the CP. What we have in questions also looks similar, with a dislocated full NP/DP in the CP layer and a theta-selected pronoun in SpecT.

In sum, it seems that the alleged evidence that Old French subject pronouns are not independent words is insignificant and in fact they behave exactly how we would expect independent pronouns to behave. Due to the patterns with subject doubling in questions and the primacy of pronouns appearing in preverbal position, we can also see that the input required to reanalyze French into close to its Standard form is already available.

In varieties of Modern Colloquial French, much has changed about the realization of subject pronouns. I will discuss two particular issues here: what is the status of pronominal subjects in various dialects, and what subject pronouns have transformed into that are not +φ.

Auger (1994) makes a case for Quebec Colloquial French subject pronouns being affixal in nature. Her arguments use the morphological and pragmatic approaches, but also offer some

compelling syntactic arguments. These arguments are the loss of strong Subject-Clitic Inversion in questions, the multiple realization of φ-markers on conjoined verb constructions, and resumptive-style φ-markers in extraction contexts.

Auger argues that subject markers in QCF double overt subjects frequently enough to suggest that they are not the theta-marked argument. She does not offer statistics for QCF, but reports that in other varieties of spoken French there is enough subject doubling to be parallel with the rate of appearance of overt subjects in Italian. Teenage speech in Villejuif (a suburb of Paris), for example, shows as much as 96% of doubling of NP subjects (cf. Campion 1984:219). Even if not to that extreme, in QCF, the rate of co-occurrence with full NP/DP subjects and subject φ markers has increased. Auger argues that this doubling conveys no particular pragmatic interpretation. This suggests that these full NP/DP elements are the theta-marked subject, and the φ-marker is agreement. However, even if the subject φ-markers are not arguments, this does not tell us whether they are phrases, heads, or affixes.

The data involving Subject-Clitic Inversion that Auger presents is interesting, but difficult to interpret. In QCF only second person subject pronouns invert.

89a) *M'aimes-tu?*
me-like-you.sg
'Do you like me?'

89b) *M'aimez-vous?*
me-like-you.pl
'Do you like me?'

89c) **M'aime-t-elle/il?*
me-like-she/he

89d) *Est-ce qu'elle/il m'aime?*
INT-CLEFT-she/he me-like
'Does she/he like me?'

This suggests that Subject-Clitic Inversion is no longer a fully productive syntactic structure. Since there is no consistent distinction between the class of pronominal subjects and the class of NP/DP subjects here, this is uninformative in regards to the category of subject pronouns.

Auger (1994) points out that one change from Standard French to QCF is the creation of a sharp distinction between subject pronouns and DP/NP subjects. In Standard French, subject pronouns could scope over conjoined verbs, as DP/NP subjects can. But in QCF, subject pronouns must repeat with each verb.

Standard Literary French:

90)	*Je*	***mange***	*du*	*pain*	*et*	***bois***	*du*	*vin*
	I	**eat**	of-the	bread	and	**drink**	of-the	wine

'I eat bread and drink wine'

Quebec Colloquial French:

91)	*tsé*	*un enfant*	***il***	*arrive*	*pis*	****(il)***	*te*	*pose*	*une question*
	y'know	a child	he	arrives	and	he	to-you	poses	a question

'Y'know, a child comes to you and asks you a question'

Note that in (91) the NP/DP subject also appears, but does not have to repeat. Auger argues that this is a sign that the pronominal element is an affix, parallel to agreement marking in English.

92) a. She writes novels and recites poetry
b. *She writes novels and recite poetry
c. *She write novels and recites poetry

But affixed to what? Auger convincingly argues that the object marker is a pronoun and not an agreement morpheme, so subject agreement on T would have to appear outside a clitic-word. If it is agreement on C, however, there is no such constraint.

Bresnan and Mchombo's (1987) second diagnostic of grammatical agreement reminds us that grammatical agreement will still appear even if the argument has been extracted. Here is

where QCF object markers act like pronouns, and subject markers act like agreement. Resumptive object markers are so rare as to be essentially unfindable, while resumptive subjects are very common.

93) ***J'****étais pas* *une personne* *que* ***j'****avais beaucoup* *d'amis* (15:134)
I'was not a person that I'had a-lot of friends
'I was someone who didn't have a lot of friends'

This indicates that subject markers are grammatical agreement, while object markers are pronouns.

These arguments compellingly suggest that in QCF the French subject pronouns completed their transition into being agreement affixes. If they are on C or are an independent AGR head between T and C, however, it would be more accurate to call them agreement heads.

This is not the only reflex of French subject pronouns. The Subject-Clitic Inversion structure, before it was lost, left a remnant which shaped a new polarity head *-tu*. Unlike the φ-marked elements that have become uφ agreement heads, these pronoun remnants have been φ-bleached and are independent functional heads with their own discourse meaning.

94a) *Je* *peux-tu* *voir* *la caméra?*
1s can-POL see the camera
'Can I see the camera?'

94b) *Jean,* *il* *peut-tu* *voir* *la caméra?*
Jean 3s can-POL see the camera
'Can Jean see the camera?'

This head can co-occur with overt subjects and QCF subject pronominals. Although it looks on the surface like a reflex of a second person singular pronoun, it is in fact a result of the inverted pronoun *-il* with an euphonic *-t-* resulting in the reflex *–tu*. Vinet (2002) argues that these are positive polarity operators resulting in a superpositive reading.

95) *Elle* *est-TU intelligente!*
3sf be-TU intelligent
'She is so intelligent!'

This is a clear transition from a clitic-word pronoun into a non-φ head. The subject agreement affixes discussed above transitioned from inherent φ to uφ probes potentially on an AGR head. These elements lost their φ interpretation, but developed a new status as polarity heads.

Thus the evolution of the French subject pronoun potentially looks somewhat like this:

Old French: Independent Word
Premodern French: Cliticization to C
Standard French: Feature Bundle on C
Quebec Colloquial French: Reanalysis as a Polarity Head; uφ Agreement on C

Although there are multiple interpretations possible, what the two divergent evolutions of the Standard French subject pronoun show is that the definition of clitics as head-linked elements posits a stage where these independent pronouns fuse their inherent φ features to a head. This allows for a further transition into a uφ agreement head and an independent polarity head.

One takeaway from this is that diachronic transitions can be complicated. First, Old French subject pronouns, independent words, were reanalyzed as clitic-words due to the differences in their distribution triggered by the discourse status of pronominal elements. Second, phonological restrictions led to an interpretation of the subject cliticizing to C as feature movement to C by means of Move via Agree. Third, Colloquial Modern forms broke the association between these features on the C head and the pronoun merged in theta position, and reanalyzed these phrase-to-head transitioning elements as agreement and polarity heads.

4 Conclusion

In this chapter I have applied my theory of cliticization to two data sets that have been the subject of some debate. Cliticization via m-merge offers a more straightforward analysis for

Middle Bavarian and Lake Constance Alemannic. Move via Agree provides a synchronic analysis of Standard French and a solid understanding of how my model informs trajectories of change positions the French data diachronically and that highlights important intermediate steps on the road of change. With a few adjustments and redefinitions my syntax-morphology interface model allows us to account for the model-breaking data of many clitic-type elements with ease and clarity.

In the next chapter I will return to the Middle Welsh data which inspired this new analysis and show how the tools we have heretofore developed can plainly describe the underlying structures that incorporate φ-marked elements in Middle and Modern Welsh.

CHAPTER 5

IF SYNTAX CAN HANDLE MIDDLE WELSH, IT CAN HANDLE ANYTHING

In this dissertation we have examined the theoretical significance of the category of the weak pronoun. Our initial proposal was that weak pronouns are elements that are phonologically word-like but syntactically clitic-like. This binary parameter setting required us to define the difference between phonological words and clitics and syntactic words and clitics. As we investigated, it became clear that syntactic clitic behavior had something to do with the morphological process of fusion to a head, and certain types of phonological clitic behavior seemed to be linked to the input to spell-out. After restricting our concept of phonological clitics to only affix-type clitics, we were able to account for the diagnostics specifically targeting special clitics by showing how their syntax connected them to affixes and resulted in a tendency toward an affix-like spell-out.

What these theories do is offer us ways to define categories of lexical type with some explanatory adequacy. Using the concepts of being head-linked and having a word-like or affix-like spell-out allows us to make somewhat more predictive groupings for our lexical types. Independent words are not bound to a head outside their basic phrasal category (not head-linked) and project their own phonological word level. Linked-words, which are bound to an X^0 of a different type than their basic category (head-linked), are usually slightly phonologically reduced but not enough to count as a phonological clitic. Special clitics, also bound to an X^0 of a different type than their basic category (head-linked), are feature bundles which have undergone cliticization followed via m-merge or by means of Move via Agree, and they are affix-like phonologically. This means that they are included within their hosts phonological word, and that

rather than having a distinct and easily decomposable spell-out shape, during spell-out their features may determine the shape of their host.

The initial impulse for this dissertation was to test Cardinaletti and Starke's (1999) pronoun type diagnostics on the pronoun types of Middle Welsh. As seen in chapters 2 and 3, these tests resulted in an overhaul of these diagnostics and a new syntactic analysis. The Middle Welsh pronoun and agreement systems are highly complex and interactive, but also specific and distinct. More than any other individual language, they reveal the weaknesses in our model for representing φ-marking. Therefore, in this concluding chapter I will propose an analysis for five types of Middle Welsh pronouns and their interrelations with agreement: the subject affixed pronoun, conjunctive/reduplicated/simple contrasts in independent and affixed pronouns and the reduplicated pronoun's diachronic development into a discourse particle, conjugated prepositions, post-prepositional φ, genitive pronouns and post-genitive φ. I will also show how this model predicts that post-verbal subjects, post-prepositional φ, and post-genitive φ are all realized as in the Middle Welsh 'affixed' pronoun shape, even though their underlying syntax is quite different.

What we will see by revisiting each of these pronoun types is that although the theory proposed in chapter 3 is complex and predicts a wide variety of outcomes, there is a need for this kind of variation, and the predicted outcomes are attested.

1 Generalizing across the Affixed Pronouns

Both traditional and recent descriptions of the distribution of 'affixed' pronouns in Middle and Modern Welsh have claimed that their defining feature is that they must co-occur with agreement. Subject 'affixed' pronouns appear after agreeing verbs—the φ-morphology on the

verb being the agreement. Object of preposition affixed pronouns appear only with conjugated prepositions—the φ-morphology on the preposition being the agreement, and post-nominal affixed pronouns appear only with possessed noun phrases—the prenominal φ-marked possessor serving as the agreement.

96)	*gwnaf i*	*97)*	*genhyf i*	*98)*	*uy mab i*
	do.1s 1sA		with.1s 1sA		1sG son 1sA
	'I do'		'with me'		'my son'

This intuition about which part is the pronoun and which part is the agreement is grounded in the idea that affixes and sometimes clitics are grammatical agreement (uφ) while separated elements are real pronouns (inherent φ). I have rejected the assumption that lexical type determines whether something is uφ or inherent φ, but even if we did assume this, the generalization is problematic. In (96) and (97) it is impossible to say that the affixed pronoun is assuredly not an affix, as it is phonologically inseparable from the conjugated element, and is only represented as separate by orthographic convention. For (98) however, the affixed pronoun is separable from the head noun, but so is the pre-nominal genitive, as we can see in (99). In this case neither can be interpreted as affixes on the head noun, and so there is no reason to argue that the pre-nominal genitive is more likely to be agreement than the post-nominal affixed pronoun.

99)	*Pa*	*le*	*mae*	*dy*	*hen*	*drugareddau*
	what	place	are	2sG	old	mercies

'Where are thy old mercies' *(Evan Rees (Dyfed) 1850-1923)*

The idea that we know which element is agreement and which element is the pronoun by its lexical type in Middle Welsh is inherently flawed. Our other morphological indicators are equally mixed. In later sections I will examine the role of gender and co-occurrence with full NP/DPs and how they suggest or provide arguments against various morphemes being or not being agreement.

Bresnan and Mchombo's (1987) syntactic diagnostics for agreement are difficult to use on Middle Welsh. In all these cases, the two φ-marking morphemes are in the same phrase, so they are inherently local. And though there are restrictions on co-occurrence with full DP/NPs, if these DP/NPs were represented by *pro*, they would also always be local.

Extraction data shows that in Modern Welsh, when an affixed pronoun is serving as the object of a verbal noun, the pre-verbal-noun genitive marker does pattern like agreement, as it remains when the object is being questioned and the affixed form cannot appear. However, there is not enough similar data to make a case one way or another for Middle Welsh, and in other situations, such as with prepositions, extraction is not possible. I suggest that this is indicative of the fact that the pre-nominal genitive may in fact be agreement in Modern Welsh, but it does not say one way or another about Middle Welsh.

The idiom test is hard for Middle Welsh. And displacement to the periphery is also tricky. Clearly displacement doesn't happen with pronominal subjects, because we know that the periphery for them is sentence initial position. For preposition and genitives, though, it seems possible that the affixed position could indeed be peripheral to the PP and PossP. In sum, it is difficult to make a general statement about the behavior of all affixed pronouns in one go.

If we examine the Middle Welsh data without the assumption that lexical type tells us if something is agreement or if it has inherent φ, it seems clear that agreement is in fact part of the set up for affixed pronouns. A phrase containing an affixed pronoun must contain both a uφ element and an inherent φ element in order to make certain that the two φ-markers correspond. Assuming only downward probing agree, the uφ must c-command the +φ at some point in the derivation.

Some languages may not allow for surface ambiguity between uφ and +φ because of the way paradigmatic insertion works. As these different types of φ would necessarily appear fused to different heads—or to no head at all—the spell-out of these forms is always potentially different. φ+C, where the φ is valued by Agree, picks out φ-paradigm A, while φ+T, where the φ is inherently valued, picks out φ-paradigm B, even though there is no actual difference between the φ features that are sent to lexical insertion. If there is only a single φ-paradigm in the language, however, all of these feature combinations could be realized identically.

1.1 Post-Verbal Affixed Pronouns

In Middle Welsh there is reasonably good evidence that the post-verbal affixed pronoun is a subject and controls agreement on the verb. First, the affixed pronoun series patterns very like the independent pronoun series. Both series co-occur with verbal agreement, suggesting that both can initially merge in theta position and form an agreement relationship with the verb. Both likely move to specT before undergoing their final positioning operations—independent pronouns moving to SpecC and affixed pronouns fusing to the head position above them.

Evidence for the fact that post-verbal affixed pronouns are φ-valued through anaphoric agreement (inherent φ), not grammatical agreement (uφ), can be found in a comparison with Breton. Closely related Breton has been analyzed as not having agreement at all—as I discuss, following Anderson (1982) in chapter 3, section 1.1.2. Breton shows anti-agreement effects where agreement on the verb is only realized if there is no overt pronoun.

100) *C'hwi e daolo/*daoloc'h dour war an tan*
2p P pour.3s/pour.2p water on the fire
'you will pour water on the fire'

Anderson (1982) proposes a rule that moves a pronoun subject into the position of verbal agreement. Assuming m-merge between the pronoun, the head and the head-moved verb in this position will render the same result.

Modern Welsh, like Breton, has anti-agreement effects, but not with pronouns. The φ-features of pronouns are also represented on the tensed verb stem. Only full NP/DP subjects trigger third singular default agreement. In Middle Welsh, though, the agreement patterns are less consistent. Generally, in the basic VS word order, the verb is third singular before a plural DP/NP subject, but this is not always the case.

101) *val* *y* *doethant* *llygot*
as P came.3p mice
'how mice came' (PKM 60.25)

This is evidence against the idea that an incorporated pronoun becomes agreement in Middle Welsh. In these case we see that although agreement does not always obtain with full DP/NP subjects, it can obtain, even when the DP/NP subject is clearly not dislocated. Thus when agreement does obtain, it is the result of an agreement probe and not an incorporated pronoun. Therefore, we can argue that post-verbal affixed pronouns are inherent φ subjects and control the agreement on the verb.

1.2 Post-Prepositional Affixed Pronouns

For prepositions, however, the situation seems inverted. The φ-marking on the prepositional stem shows all the signs of being a fused pronoun. This fused pronoun values the agreement probe in the post-prepositional affixed pronoun.

First, full NP/DP arguments of the preposition take the non-conjugated form of the preposition, not a default third person form.

102) *ar* *y* *ci*
on the dog
'on the dog'

103) *arnaw*
on.3sm
'on him'

104) **arnaw* *y* *ci*
on.3sm the dog
'on him the dog'

Second, there is a masculine third person singular form of the conjugated preposition and a feminine one, just as there is a masculine third person singular pronoun and a feminine one, while agreement on the verb has a single non-gendered third person reflex.

105) *arnaw*
on.3sm
'on him'

106) *arnei*
on.3sf
'on her'

Additionally, the behavior of conjugated pronouns with regard to conjunction suggests that the φ-marking on the prepositional stem is the full argument. In the same text and the same context we see both conjunction of an agreement morpheme and conjunction of an affixed pronoun.

107) *rof* *[i* *a* *Duw]*
between.1s [1sA and god]
'between me and god' (Pwyll 19:7)

108) *rof* *[* *a* *Duw]*
between.[1s and god]
'between me and god' (Pwyll 16:22)

Assuming *pro* in (108) would also serve, but along with the other data the conjunction pattern increases the likelihood that the φ-marking on the prepositional stem is an argument.

1.3 Post-Possessive Affixed Pronouns

For possessive structures, there is no reason to assume that the possessive marker is anything but a full pronoun. Like the φ-marking on the stem of conjugated prepositions, possessive pronouns never co-occur with NP/DP arguments.[10] And there are distinct masculine and feminine reflexes for possessive pronouns, unlike for verbal agreement.

10 Possessive structures can also be used to mark the object of a verb-noun in a subordinate structure. This often uses the possessive pronoun as a resumptive marker. This resumptive marker does not need to agree with the

Additionally, possessive pronouns are unlike the usual Indo-European forms of agreement because they are not suffixes. Instead, they are pre-nominal clitics that alternate forms for post-vocalic and post-hiatus/post-consonantal contexts.

109)	*vy*	*mab*	*110)*	*a'm*	*mab*
	my	son		P'my	son
	'my son'			'my son'	

The argument that possessive pronouns are agreement is motivated by trying to find a pattern that will give all the affixed pronouns an identical representation. However, as I suggested above, when sent to the lexical insertion stage, uφ and inherent φ are non-distinct. Therefore, there is no reason to assume that the affixed pronoun shape corresponds to either agreement or inherent φ inputs.

Additionally, because possessive DP/NPs are post nominal and affixed pronouns are post nominal, it would be tidy to have the post nominal position host all possessive arguments.

111)	*mab*	*Dafydd*
	son	David
	'David's son'	

However, there is no reason to assume this should be the case. In other Celtic languages the pattern of pre-nominal possessive pronoun and post-nominal possessive DP/NP is consistent.

112)	*mo claideb*		*113)*	*cú chulainn*	(Old Irish)
	my sword			dog chulainn	
	'my sword'			'Chulainn's dog'	

There is no reason to suppose that the pre-nominal possessive marker in Middle Welsh is anything but a pronoun.

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thing it is resuming.

(i)

Mi	*yd*	*wyt*	*yn*	*y*	*geissaw*
1s	P	be.2s	Pred	3s	seek

'(It is) I whom thou art seeking' (WM 138.21)

In Modern Welsh, the possessive pronouns are slowly beginning to disappear. So are the affixed pronouns that they used to co-occur with. Instead, when there is no pre-nominal possessor at all, an independent pronoun may appear in the same position as DP/NP possessors.

114) *Car fi 'dy hwnna*
car 1sS be that
'that's my car'

This is a good indication that the existence of the pre-nominal possessor was a precondition for the appearance of the affixed pronoun. It does not, however, have anything to say about the agreement status of either.

1.4 Summary

When we look closely at the set of affixed pronouns and the set of things identified as the agreement morphemes that they co-occur with, we can see that the input forms are heterogenous. Post-verbal affixed pronouns are valued through inherent φ, while post-nominal and post prepositional affixed pronouns realize φ through grammatical agreement. Pre-nominal genitives are the true pronouns, and the conjugated part of the conjugated preposition is a fused argument. To give a unified account of affixed pronouns we must reject the idea that we know what is the probe and what is the goal in an agreement relation by whether they appear to be more affix-like or more word-like. Instead, no matter how φ is valued, the features that are sent to lexical insertion are identical.

2 Subject and Object Pronouns and Discourse Salience

Middle Welsh subject pronouns vary along both syntactic and semantic axes. In Chapter 1 and 2 we discussed the idea that discourse prominence needed to be made distinct from lexical type. Discourse prominence can come in many different shades of meaning, which may or may not line up clearly with their realizational form. In Cardinaletti and Starke (1999) it was assumed that referentiality and discourse prominence were linked to the pronoun's syntactic type.

The model:

High familiarity				**Low familiarity**
Zero	Clitic	Weak	Pronoun	Pronoun+

But, although Zero and Pronoun+ specifically encode certain discourse features, the intermediate types do not distinguish referential strength. Additionally, a cline of high and low salience does not adequately encompass the variety of functions a pronoun can play in the discourse.

An alternative paradigm could look more like this:

Discourse Prominence	**Realization Type**
High salience old information referent	Zero, Clitic, Weak, Pronoun
Reminder of old information referent	Clitic, Weak, Pronoun
New information discourse-local referent	Clitic, Weak, Pronoun
Contrastive old information referent	Weak, Pronoun, Pronoun+
Focused old information referent	Weak, Pronoun, Pronoun+
Ostentional referent	Weak, Pronoun, Pronoun+

Zero pronouns can only refer to high-salience referents since they must be entirely recoverable from context. Clitics—in our model, special clitics and agreement affixes—may be able to refer to all sorts of familiar referents, and even new referents if they are familiar enough. Weak pronouns/linked words encompass all of these, including those that require an extra focus morpheme, just like independent pronouns. Pronouns with distinct focus morphemes can, as expected, only refer to focused referents. A language with only a subset of these realizations will

be able to be more or less specific with regards to the expected discourse salience of the pronominal.

A language like Estonian, for example, has a long and short third singular pronoun alternation *Ta/Tema.* As these do not differ syntactically, both behaving like free pronouns, we can divide up the discourse space with the short form *Ta* encompassing the more familiar referents, and the long form/Pronoun+ form *Tema* as picking out contrastive or emphasized referents. But a language with only regular independent pronoun forms available will use it for all of these options, and find other means to express focus or contrastiveness.

English, for example, uses a verbal construction to describe contrastive referents where Welsh would use a Pronoun+ form.

115) Mr. Dursley blinked and stared at the cat. The cat stared back. (HP)

116) *Rhythodd Mr. Dursley ar y gath. Rhythodd y gath arno* ***yntau***.
stare-3s Mr. Dursley at det cat stare-3s det cat at-3sm **3smC**
'Mr. Dursley stared at the cat. The cat stared at him (too).' (HP)

A language such as Middle Welsh, with four pronominal options in many syntactic configurations (zero, simple, contrastive, reduplicated), can divide these options up to a quite fine degree. Subject pronouns, including both linked-word 'affixed' pronouns and independent pronouns, divide their discourse space using all four types. However, the affixed/independent contrast is driven by the V2 requirement for Middle Welsh and therefore has little to do with this cline of discourse salience.

Middle Welsh object pronouns use second position special clitic forms to express the unfocused end of the discourse hierarchy and independent forms for focused and contrastive meanings. Assuming the second position clitic assign their features to the C head by means of Move via Agree when there are no focus morphemes attached, we do not expect zero pronouns

to indicate the most familiar referents. As even zero pronouns can trigger agreement, we expect Move via Agree to function and realize its features on the C head even if without it the pronominal would be phonologically null. Here syntactic constraints help to shape the realization of the discourse cline, but it is not that special clitics have a particular type of referent, simply that they preclude zero forms.

These examples show that although lexical type interacts with the representation of discourse salience, it does not determine it. Using the syntactic constraints that are part of the construction of each lexical type allows us to restrict its behavior in situations where it refers to very familiar or novel and focused discourse referents.

3 Canonical Cases: Affixed Subjects and Infixed Objects

3.1 Subject pronouns

Middle Welsh subject pronouns initially merge as arguments in the spec of v, then move, like full NP/DP arguments into SpecT. This puts them into an immediately local relationship with AGR, the final landing site for verbs in Middle and Modern Welsh (Willis 1998, Roberts 2005). Middle Welsh is a verb second language and requires a phrasal element to fill the initial position. If the subject pronoun is placed in this position, it is not in a position where it can fuse to AGR. Here we have the two different syntactic realizations of subject pronouns. If they are A' moved into C, they are not fused to a head and are realized as an independent pronoun. If they are A moved into T, they fuse with AGR and are realized as affixed pronouns.

In order to capture this as a derivational process, the V2 requirement must determine its target very early on in the derivation. I suggest that the V2 marker is a head in the derivation and it forms a selectional relationship with whatever phrase will end up in initial position. Although

the features of the phrase project to the top, this makes any Xmin/max category into an Xmax category and thereby prevents it from undergoing m-merge. This predicts the distribution where subject pronouns only appear in their independent form if they are in preverbal position.

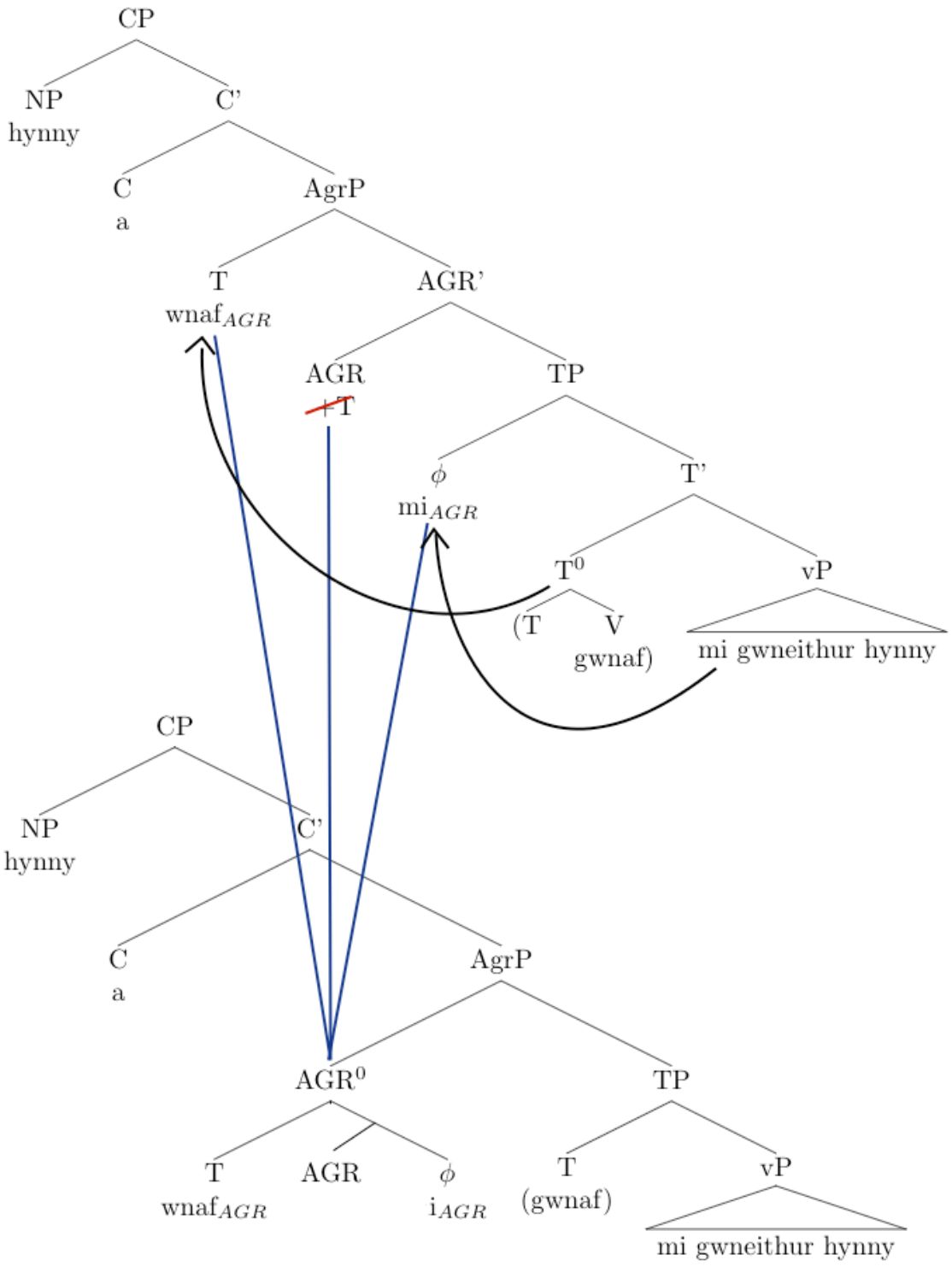


Figure 10. M-merge of Complex AGR head
AGR^0 = √V+V+v+T+uφ:1s+AGR+φ:1s

117) *hynny a wnaf i*
that P do 1sA
'I do that'

This model of Middle Welsh syntax predicts the distributional facts about the post-verbal affixed pronoun. First, since the pronoun is fused to a higher head, it is no longer in the same position as the full NP/DP subject. This predicts the difference in outcome for Modern Welsh dialects. As Jespersen's cycle applies, learners decide how to position the negative head in regards to these differently placed elements either grouping the pronouns and the NP/DP subjects together, as in standard Modern Welsh, or splitting them apart, such as in Pembrokshire Welsh.

Modern Welsh
Indefinite subject of the Copula:
118) *Does* ***dim*** ***defaid*** *yn* *y* *cae*
Neg.be ***neg*** **sheep** in the field
'There are no sheep in the field.'

Definite:
119) *Cheisiodd* ***Gwyn*** ***ddim*** *ateb* *y* *cwestiwn* *bob* *tro*
tried **Gwyn** ***neg*** answer the question each turn
'Gwyn didn't try to answer the question every time.'

Pronominal:
120) *Gwerthasant* ***nhw*** ***ddim*** *y* *ci*
sold.3p **3pA** **NEG** DET dog
'They sold the dog.'

Pembrokeshire Welsh
Indefinite:
121) *Nethe* ***ddim*** ***dwr*** *pishtyll* *y* *tro*
do **NEG** **water** spring the turn
'**water** from the spring would not do.'

Definite Below Negation:
122) *A ddath* ***ddim*** ***y*** ***gyfreth*** *i* *rym* *nes* *bod* *hi'n* *y* *Ionawr.*
& come **NEG** **DET** **law** in force until be 3sf'P DET January
'and **the law** didn't come into force until January.'

Definite Above Negation:

123) *Ath* ***'y*** ***nhad*** ***ddim*** *i* *mas* *i* *ddrychid*.
go **1sG** **father** **NEG** 1sA out to look
'**my father** didn't go out to look.'

Pronoun:

124) *Weles* ***i*** ***ddim*** *y* *fudde* *honno* *ariod.*
see **1sA** **NEG** DET churn DEM ever
'**I** didn't see that churn ever.'

Second, m-merge allows for the conjunction patterns we see with affixed pronouns. As I pointed out in chapter 3, the highest conjunct is visible to the syntax in ways that the rest of the ConjP is not. It does not violate the Coordinate Structure Constraint—a semantically motivated constraint—to say that the highest conjunct, if it is an Xmin/max element, can undergo m-merge with a higher head, as long as it does not break the linearity of the ConjP. The lower conjunct, even if it is a pronoun, will not be fused and therefore remain in independent form. In other languages, however, where the fused head is lower, the lower conjunct may be able to appear in the clitic-word form.

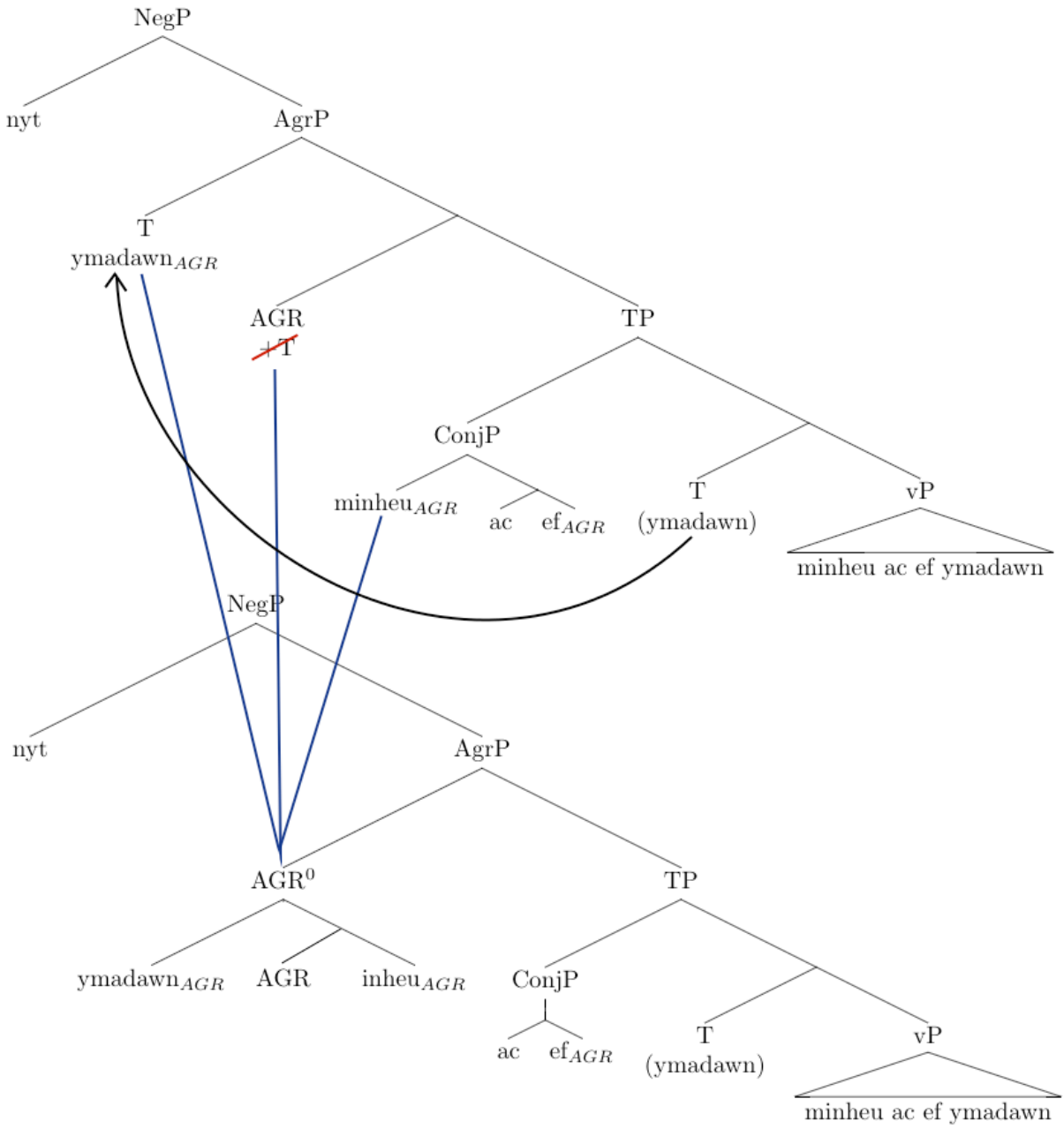


Figure 11. M-merge of a First Conjunct into a Higher Head

125) *nyt* *ymadawn* *inheu* *ac* *ef*
NEG recip.leave.1s 1sC & 3sm
'He and I would not leave each other.' (Pen. MS 4)

Third, we know that heads cannot undergo A' movement, so an element that has undergone m-merge with an X^0 node in the main spine would not move to an A' position, or be in preverbal position in a V2 structure.

Cliticization via m-merge provides a solid analysis that predicts the distribution of the Middle Welsh subject pronoun.

3.2 Object Pronouns

In chapter 2 we laid out the facts showing that Middle Welsh object pronouns pattern like special clitics. There are three major facts that any analysis of Middle Welsh object pronouns must account for. First, clitic-type object pronouns appear immediately after any C-layer elements and before the verb which is in the highest slot below C. Second, if the object is a DP/NP or a conjunctive or reduplicating pronoun, nothing appears in second position and the object remains low. Third, second position object pronouns do not co-occur with imperatives.

126) *minheu* *a'e* *kymmeraf*
1sC RP'3sI accept.1s
'I will accept it.' (Pwyll 17.25-26)

127) *mi* *a* *wnaf* *na* *chaffo* *ef* *uiui* *uyth*
1sS P do.1s negC get 3sS 1sR ever
'I will make it so he will never get me' (Pwyll 14.22)

128) *dygwch* *ui* *o-dyma*
take-IMP 1sS (*mi*) from-here
'take me from here' (Pwyll 6.3)

Using the proposal made in chapter 3 for special clitics, I propose that there is a Move via Agree triggering φ-probe on all non-imperative C-heads. This copies the features of simple pronouns merged in the complement of V or VoiceP onto the C head, resulting in an output like (122). If the pronoun is morphologically complex, such as the reduplicated form in (123) the Move via

Agree relation is stymied and copies no features. An imperative C head does not contain this φ probe and therefore the object remains in its low position, as in (124).

4 Fused Pronouns

Special clitics like Middle Welsh object pronouns require an operation like Move via Agree to be positioned in areas that are very distant from their point of initial merger, but as they still pattern like inherent φ elements, they must not be simple agreement. Because of this they often are phonologically like affixes, though because of the means of positioning, they do not act like we expect affixes to syntactically. Situations like Middle Welsh subject pronouns, wherein even morphologically complex Xmin/max φ elements can fuse to the verb also appear. In this case, the subject pronouns are technically part of the same head as the verb and therefore could be considered affixes, but during lexical insertion they are not included in the minimal phonological word, and so their form of phonological reduction is not particularly affix-like.

With Middle Welsh conjugated prepositions there are three possible theories: 1) the φ marking on the prepositional stem is a uφ agreement probe that agrees with the object of the preposition, but only if it is a pronoun or *pro*. 2) Move via Agree applies locally between the object and the prepositional head. If the relation fails, a regular agreement relation that is only sensitive to pronouns proceeds to apply. 3) the Xmin/max object of the preposition undergoes m-merge with the prepositional head. The output of this m-merge is invariant, focus features do not affect its shape. The affixed pronouns which can double the φ marking on the preposition are agreement probes which C-select PPφ and realize the full feature specification of the object pronoun.

Although theories one and two are appealing, both have flaws. Theory three, though it contains both fused pronouns and independent agreement heads—flipping our usual sense of which lexical types are probes and which are goals—functions according to the data.

Theory one requires that the φ marking on the prepositional stem is agreement. In section 1 I argued against this idea. First, there is no agreement with NP/DP objects. Second, there is a gender distinction in the conjugated prepositions when there is no gender distinction in verbal agreement. And third, there is only first conjunct agreement, and conjunction may appear with no overt pronoun in the first conjunct position.

129) **arnaw y ci*
on.3sm the dog
'on him the dog'

130) *arnaw*
on.3sm
'on him'

131) *arnei*
on.3sf
'on her'

132) *rof [i a Duw]*
between.1s [1sA and god]
'between me and god' (Pwyll 19:7)

133) *rof [a Duw]*
between.[1s and god]
'between me and god' (Pwyll 16:22)

These facts all suggest that the φ marking on the prepositional stem is unlikely to be the regular reflex of a uφ probe.

Theory 2 is more promising because Move via Agree already disallows DP/NP targets, has no issue including gender features. However, this is not what is expected for conjunction behavior. In addition, affixed pronouns can appear with conjugated prepositions, and they do not block φ features from appearing on the prepositional stem, unlike with object pronouns.

134) *gen**hyf*** ***inheu***
with.1s 1sA
'with me' (Manawydan 50.23)

Theoretically, it is also problematic to argue that Move via Agree is a common local relationship. As it allows for very special cases, such as second position clitics, it seems that keeping it as a very special and restricted operation is preferred. Requiring to have it also occur with a secondary agreement relation that is restricted in the same ways we had to restrict agreement for theory one only makes this possibility worse.

As neither of these two theories parsimoniously account for the data, all requiring extra mechanisms and stipulations, we will turn to the third possibility. The first step in this proposal is that prepositional objects undergo m-merge with the prepositional X^0 node. There is no restriction on m-merge that says an Xmin/max object in complement position cannot undergo m-merge with its selecting head. The second step is that during lexical insertion, there is only a single available paradigm for conjugated prepositions, and therefore the output is the same regardless of the discourse properties of the prepositional object. Although the output of other m-merged pronominals are different, this is predicted by late insertion for paradigmatic elements. An X^0 node containing AGR+verb+uφ:i+φ_i+FOC having a different output form than an X^0 node containing P+φ+FOC is not only unsurprising, it is expected. Having P+φ+FOC and P+φ select the same output form is also accords with the DM method of vocabulary insertion, as defined by the subset principle (Sauerland 1995), repeated here.

Subset Principle: The phonological exponent of a Vocabulary item is inserted into a morpheme if the item matches all or a subset of the grammatical features specified in the terminal morpheme. Insertion does not take place if the Vocabulary item contains features not present in the morpheme. Where several Vocabulary items meet the conditions for insertion, the item matching the greatest number of features specified in the terminal morpheme must be chosen.

Thus, if there are only vocabulary items matching P+φ, P+φ+FOC items will map to that output also.

Much has been made of the fact that there is extra phonological material between the main preposition and the φ marking ending, but this is an artifact of the diachronic process of creating combinatory affixation output forms. Not all conjugated prepositions have this material.

My definition of m-merge predicts the possibility of combining prepositions. Because prepositions are nearly always Xmin/max and because they are all labelled with the P categorial label feature, they fit the prerequisites for m-merge. Multiple prepositional phrases may result in a single head, but they maintain their semantic independence in the way predicted by Svenonius (2007): a PathP selecting a PlaceP. Thus, the combination of the prepositions *am* and *dan* in (135) has a meaning that is distinct from either *am* or *dan* individually.

135) *A* *derw* *wiscaw* *amdan* *y* *gwryanc*
Q come wear about-under the lad
'hast thou finished arming the youth?'(PKM 83.01)

However, although with conjugated prepositions, there are apparently two prepositional heads, the second head no longer contributes anything to the semantics. The *amdan* part of *amdanaf* means 'about' not 'about-under'. The *dan* therefore in this conjugated preposition is a quirk of vocabulary insertion, and is not represented in the synchronic syntactic structure.

Combined prepositions, though common, are not required for conjugated prepositions in Middle Welsh. *danaf* is also an attested first person singular form of *dan* and *wrthof* of *wrth.*

I also propose that the categorial label feature that subcategorizes for m-merge is born on the preposition and not on the pronoun. The preposition is subcategorized for N and m-merges to the N head. The reasons for this idea are two. First, conjugating prepositions are a subcategory of prepositions. Thus, if pronouns were subcategorized as being able to undergo m-merge with a P,

this would overgenerate conjugated prepositions. Of course, they could be weeded out during lexical insertion by simply not having a combined P+φ reflex. But it would be more parsimonious to identify the category of conjugated prepositions with a feature that encourages them to m-merge with their object. I propose that this feature is N due to the second reason it should be the preposition that m-merges with the N. This is because there is a large overlap between the prepositions which conjugate and the ones that trigger soft mutation on their objects, if the X^0 head of their object is immediately local to the prepositional head.

136) *Ef a welei, ual am gymherued(**cymherued**) llawr y gaer*
3sS P see, as about middle floor the castle
'He saw, around the middle of the floor of the castle' (Pwyll 56.9)

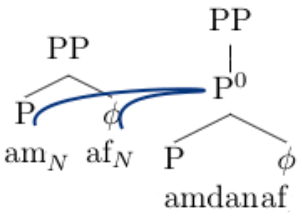
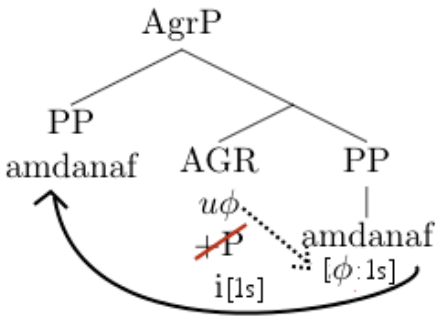


Figure 12. The Conjugated Preposition

Using this approach we can account for not only the shape of the conjugated prepositions but also this ancillary mutation feature. The final aspect of theory three was that affixed pronouns are agreement probes which C-select PPφ and realize the full feature specification of the object pronoun through the Agree relation.

This aspect accounts for a few key aspects of the data. First, the φ marking on the prepositional stem is independent of the existence or absence of an affixed pronoun. Second, having it C-select PPφ allows it to appear with conjugating prepositions and not anywhere else. Regular prepositions take independent pronouns as their objects and those independent pronouns are not doubled by affixed forms. A further support for the idea of independent agreement heads

able to select with certain XPφ phrases is that they can also account for the appearance of affixed



pronouns with possessed NPs, which I will discuss in the following section.

Figure 13. Conjugated Preposition plus Agreeing Affixed Pronoun
P = √P+P+φ:1s+AGR+uφ:1s

I argue that the Middle Welsh post-prepositional affixed pronouns are uφ heads that probe for agreement with the φPP they select. They can only select a PP that bears φ features as they only co-occur with conjugated prepositions. never with a full NP/DP argument. They then raise the prepositional phrase into their spec. Because they are optional, they may contribute some semantic or discourse emphasis. However, because simple forms as well as conjunctive can appear in this slot, I suggest that they do not actually bear an emphatic morpheme, but simply that they realize the emphatic features that already exist in the object of the preposition. Since they are fused to the φPP their realization includes all of the features already in this phrase, so if there is an emphatic morpheme, they are realized in their emphatic form.

By c-selecting the PP they end up in a c-commanding position and the uφ element can probe the +φ PP head and form an Agree relation. The X^0 PP then undergoes movement into spec of the AGR head. Because this is local movement, it is very likely that this is a head-movement operation and the AGR head undergoes m-merge with the PP. Either way, the AGR head fits our definition for a clitic-word—a head or part of a head—since it is a head.

137) *amdanaf* *i*
about.1s 1sA
'about me'

Although the idea of independent agreement heads may be surprising when considered in light of previous syntax-morphology interface models, their existence is fully predicted by the model proposed in chapter 3. In the next section I will show how positing an independent agreement head can also account for post-pronominal affixed pronouns.

5 Independent Agreement Heads

When discussing φ-marked elements, we pointed out that once φ probes have been valued, the process of lexical insertion has no way of knowing whether an element was valued through inherent φ or uφ and therefore there is no direct correlation between the lexical type of a φ marked element and whether it is agreement or a pronoun. In the previous section on conjugated prepositions I argued that not only are the affixes on the prepositional stems valued through inherent φ features but that the affixed pronouns that follow conjugated prepositions are valued through uφ probes. We have seen the idea of affix-like morphology being a fused pronoun previously in Anderson's (2005) analysis of Breton. Hale (1990) has a similar approach for Modern Irish. But independent agreement heads are not as commonly proposed an analysis. However, they are useful to explain certain phenomena, and not only in Welsh. Before I address the Middle Welsh post-possessive affixed pronouns I will sketch an analysis of the Old Irish emphatic suffix *-som* and show how its distribution can be accounted for if we assume that the suffix is initially merged as an independent agreement head.

The Old Irish emphatic suffix, also known as the *Nota augens,* like the Middle Welsh affixed pronoun, doubles a φ-marked element. They cooccur with possessive pronouns, verbal

agreement on verbs, and conjugated prepositions. Additionally, they can appear in verbless sentences, serving as one of the arguments of a missing copula. The *Nota augens* also appears as part of the emphatic series of pronouns.

138) *mo* *béssi-**se***
1sP manners-**1sNA**
'my manners'

139) *ní* *rádat-**som*** *acht* *bréic* *7* *togaís*
neg speak3p-**3pNA** save lies & deceit
'they speak only lies and deceit'

140) *ní* *'manacige* *dó* *frim-**sa***
neg see with3s against1s-**1sNA**
'he shall not see me'

141) *maic-**ni*** *dosom*
son-**1pNA** of3s
'we are sons of his'

142) *messe* = *me* + *-se* > 1s Emphatic

Although on first glance in many of these cases they look like they could indeed function as the inherent φ element, because they are optional and provide an extra semantic sense, and because they always end up in a suffix-type position, a preferable analysis would be that they are agreement heads that C-select an XPφ and then raises an Xmin/max part of the XP into its specifier—a verb, a conjugated preposition, the possessed nominal, the subject of a small clause that lacks an overt copula, or, indeed, a pronominal head.

An independent agreement head that C-selects an XPφ accounts for the optionality of the *nota augens*, its positioning, and its requirement of being local to a φ marked element with matching features.

5.1 Post-Possessive Affixed Pronouns and Demonstratives

Like the post-prepositional affixed pronouns and the Old Irish *nota augens*, the Middle Welsh post-possessive affixed pronoun can be productively analyzed as an independent agreement head. However, unlike with the post-prepositional affixed pronouns, it seems that the post-possessive affixed pronouns appear after the whole DP and are therefore not m-merged with the possessive or nominal X^0 node. Although this is not required to result in an affixed pronoun type output form, I will argue that the syntax of the DP is different enough from the syntax of the PP that the independent agreement heads do in fact have an identical syntax and their output form is only different if we assume a naive surface representation of the underlying syntactic shape.

Middle Welsh DPs, like Modern Welsh DPs are curious in their construction. First, the basic order for the DP is determiner—quantifier—noun—adjective(s)—demonstrative—complement. Second, determiners and possessives are in complementary distribution.

143)	*y*	*mab*		144)	*mab*	*Arthur*		145)	**y*	*mab*	*Arthur*
	D	son			son	Arthur			D	son	Arthur
	'the son'				'Arthur's son'						

Third, demonstratives must co-occur with determiners, just as affixed pronouns can only occur when there is an overt possessive pronoun.

146a)	*y*	*mab*	*hwnn*	b)	**mab*	*hwnn*
	D	son	this		son	this
	'this son'					

147a)	*uy*	*neges*	*i*	b)	**neges*	*(i/mi)*
	1sP	message	1sA		message	(1sA/1sI)
	'my errand'					

Because of these two facts, demonstratives never co-occur with possessive affixed pronouns.

Fourth, when the possessor is pronominal it appears before the noun. If the possessor is a full NP/DP is appears post nominally. Pre-nominal φ possessive markers never occur with full NP/DP possessors—an indication that they are not agreement.

148) *eu* *neges*
3pG message
'their errand'

149) *neges* *kennadeu*
message messengers
the messenger's errand'

150) **eu* *neges* *kennadeu*
3pG message messengers

What these facts suggest is that the structure of the pronominally possessed NP is isomorphic with the structure of the definite NP, potentially down to the use of the same projections.

A fifth intriguing fact is that demonstratives show agreement with their nouns. However, the agreement they show is not person agreement, but gender agreement.

151) *y* *mab* *hwn*
the son(m) this.m
'this son'

152) *y* *nos* *hon*
the night(f) this.f
'this night'

This indicates that the demonstrative initially merges above the noun so that it can probe it for gender features. It also indicates the heterogeneity of agreement systems in Welsh. Verbal agreement does not realize gender, but demonstrative agreement is sensitive to gender, as is the sort of agreement we argue is born by independent agreement heads that are realized as affixed pronouns. Demonstrative agreement is even more specific. When used substantively, a third demonstrative *hyn,* is used to refer to abstractions. Attributively it most often has plural meaning.

Substantive demonstratives are sensitive to a category of gender that other pronouns do not separate out.

Although the demonstrative merges above the noun, it only appears when there is also a determiner. This indicates that there is a selectional relationship between them. Most likely the demonstrative selects a non-possessive definite NP and merges as an independent agreeing head—just as we predict for affixed pronouns.

Demonstratives, like affixed pronouns, are Xmin/max elements that probe for agreement. They form an Agree relationship with the embedded noun. The definite NP raises into their specifier. However, this is an apparent violation of the locality condition. If the whole phrase is moving, it should not be able to make such a short move, from complement position to specifier position of the same head. I suggest, based on data from the structure of the DP in Modern Welsh, that it is in fact head-movement, the movement of an X^0 node and not phrasal movement at all.

In Middle Welsh there is not much evidence to lay out the structure of the DP, however, from what we can see it does not seriously diverge from the Modern Welsh DP. The Modern Welsh DP has some very interesting properties. The determiner, numerals, various quantifiers, and possessive pronouns all appear before the nominal head. After the nominal head are adjectives, demonstratives, and complex complements. We can see the relative ordering in (137).

153)

y	*pedwar*	*llyfr*	*newydd*	*hyn*	*gan*	*John*
D	four	book	new	these	by	John

'These four new books by John'

One of the generalizations we can make about this ordering is that the types of prenominal elements are often analyzed as heads: D, NUM, POSS, and the post-nominal elements are frequently given phrasal status: AP, PP. We can account for this generalization by using m-

merge. NUM heads are subcategorized with N, allowing them to m-merge with the nominal head. D is also subcategorized with N, and whether it selects N^0 or NumP, all the Xmin/max elements are Xmin/max and subcategorized for N. D (NUM) and N all m-merge, into a single X^0 with potentially three distinct morphemes. Thus, when the adjective phrases with null A^0 nodes select the NP and the demonstrative selects the DP, the $D/NUM/N^0$ can raise to initial position in the DP via regular head-movement.

Phonological data supports the theory that the D/Poss head undergoes m-merge. Both *yr* the demonstrative, and all forms of the possessive pronoun undergo reduction conditioned by the phonological environment. Numerals are also likely to m-merge with the nominal head as numerals can cause mutation on the following noun. If plural features are also kept on the Num head, this predicts the difference in form for plural nouns and noun+numeral, and also may lead to an explanation for why plurality blocks the determiner-triggered mutation on feminine nouns.

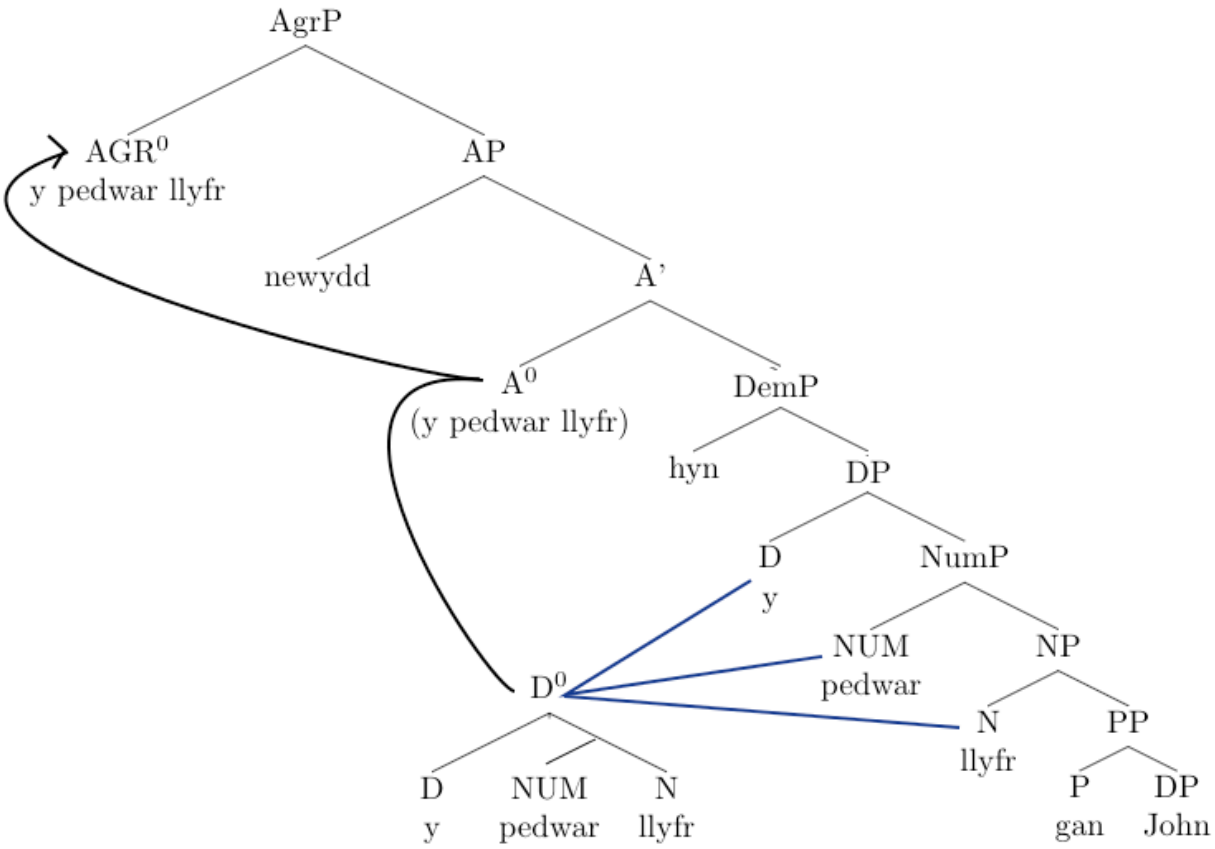


Figure 14. The Welsh DP as Cyclic M-merge

Using an m-merge analysis we can account for the basic intuition that what ends up pre-nominal in the DP is a head and what ends up post-nominally is in specifier position.

For possessive phrases, we can follow this same pattern. Post-nominal DP/NP possessors are in the specifier of the PossP with a null head in Poss that undergoes m-merge with the nominal head, and then head moves over the specifier into its final landing site at the highest position in the DP. Pre-nominal possessive pronouns are m-merged with the POSS head and the N^0 and so move into the final landing site along with the nominal head.

154) *march Arthur*
horse Arthur
'Arthur's horse'

155) *uy neges*
1sG message
‘my message’

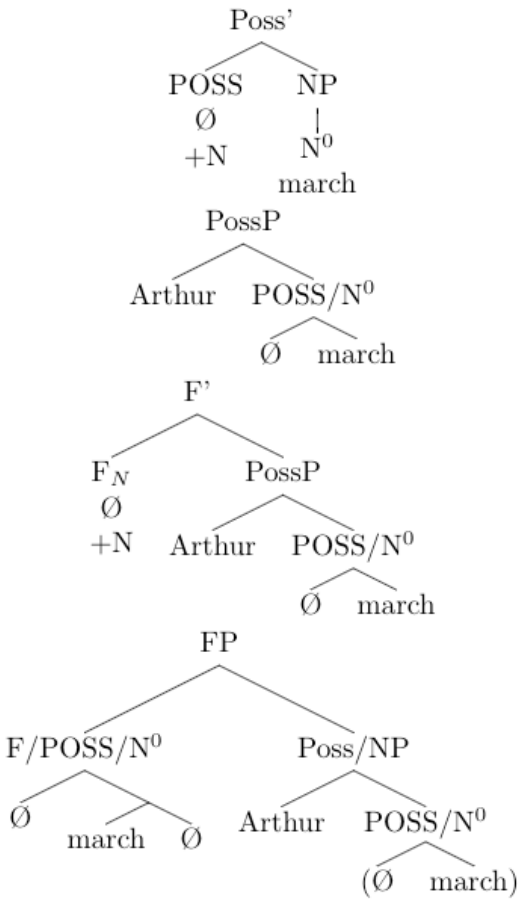


Figure 15. Deriving a PossP with a full DP/NP Possessor

1) First the null possessive head c-selects the Xmin/max NP.

2) Then the possessive head merges the possessor NP into its specifier and now that its features have been checked, it undergoes m-merge with the N^0 node.

3) The head of the final landing site for the N^0 is merged.

4) It raises the now complex N^0 into its spec, over the PossP specifier and then m-merges. The order is now possessed N, possessor.

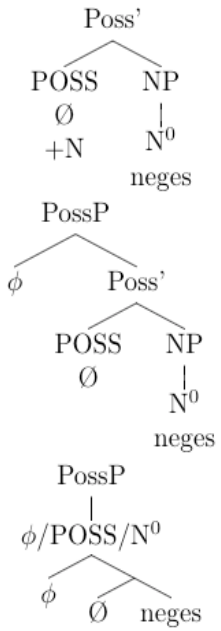


Figure 16. Deriving a PossP with a Pronominal Possessor

For pronominal possessors the derivation is equally straightforward.

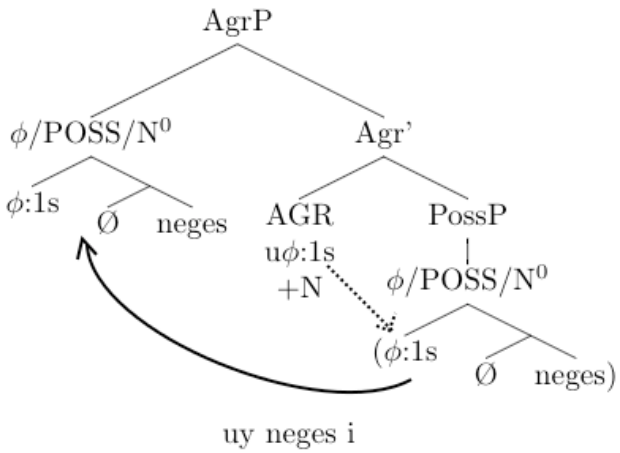
1) the same null possessive head c-selects the Xmin/max NP

2) the possessive head merges a possessor into spec. In this case the possessor is a pronominal φ bundle.

3) As all three elements are Xmin/max and all are subcategorized for N, they all undergo m-merge and are realized as a single X^0 node.

From here we can move on to our analysis of the post-possessive affixed pronoun. Our goal in this approach is to make it as isomorphic to the analysis of the demonstrative as possible. Therefore, I argue that the affixed pronoun is an independent agreement head that c-selects a XPφ, just as it was with the post-prepositional affixed pronouns. This is the same for the demonstrative, also an independent agreeing head, but the demonstrative c-selects a +definite DP specifically.

The independent agreement head forms an Agree relation with the XPφ. As the possessor's φ features are the highest within the N^0 node, the independent agreement head agrees with the possessor. A demonstrative, however, has no possessor's features to encounter so it will first encounter the number features, if they exist, and therefore plural agreement supersedes gender agreement. If there are no number features, it will form an Agree relationship with the lexical gender of the noun. The independent agreement head then will then trigger movement of



the N^0 node into spec.

Figure 17. A PossP with Pronominal Possessor plus an Agreeing Affixed Pronoun
N^0 = **φ**:1sG+POSS+N+√N+AGR+u**φ**:1s

Whether this is followed by m-merge depends on the analysis of adjectives, which I will not give here. In Middle Welsh, the pattern D/Poss N Adj Dem/Aff is so rare as to not require explanation. Adjectives may be heads and participate in the m-merge of the DP, or they may be specifiers and appear above or below the Dem/Agr head. I argue, however, that the independent agreement probe must undergo m-merge with the N^0 head. This proposal is motivated by theoretical considerations; however, it allows us to truly unify the realizations of Middle Welsh affixed pronouns.

Returning to the definition of the subset principle, I suggest that an affixed pronoun is realized if the X^0 contains two sets of identical φ features. Post-verbal affixed pronouns m-merge with a head already containing a valued agreement probe. Post-prepositional affixed pronouns only appear when they are m-merged with a prepositional head that already contains fused inherent φ features. And now we can argue that post-nominal affixed pronouns are only realized in their affixed form when the φ features of the possessive pronoun have been fused onto the N^0 head. All of these X^0s contain two φ feature bundles, one valued by Agree and the other through the merger of inherent φ features, and all pick out the affixed pronoun output form.

In our analysis of DPs, m-merge allows us to account for not only affixed pronouns but make the analysis of affixed pronouns isomorphic to demonstratives, and it allows us to account for the basic ordering of the Welsh DP, a task that has challenged even the best Welsh linguists.

6 Conclusion

In this chapter, we have shown how the morphosyntactic model presented in chapter three can account for the complex system of Middle Welsh φ-marked elements while still making strong predictions about their behavior. First, we argued that is possible to unify the distribution of the affixed pronoun if we break away from our idea of what agreement is supposed to look like. Affixed pronouns can be both realizations of inherent φ and of a valued uφ probe. We can even propose a lexical feature specification for the affixed pronoun output: an X^0 containing two sets of matching φ features.

Second, we have shown that discourse properties can be productively separated from lexical types. Although zero proforms and pronouns with extra morphemes indicating focus or contrast are restricted in the discourse meanings they can represent, for fused pronouns, special

clitics, linked words and independent pronouns, there is no correspondence between lexical type and discourse salience.

Third, the idea of a pronoun's φ features ending up on a head—either fused or by means of Move via Agree—and being realized in a shape that can be described as phonologically affixal is predicted by our model and can be productively used to describe conjugated prepositions as well as agreement facts in Breton. Fourth, the idea of an independent agreement head is not only useful for describing the function of affixed pronouns with prepositional and noun phrases in Middle Welsh but demonstratives also. Fifth, the use of the Subset Principle as adapted to work with a head fusion analysis allows us to predict the fact that post-verbal subjects, post-prepositional φ, and post-genitive φ all are realized as affixed pronouns. Additionally, m-merge can also account for the very difficult puzzle of the Welsh DP.

To sum up, rather than adding extra complexity into an already baroque system, in this dissertation I have argued that a precise understanding of our basic lexical types and their underlying syntactic realizations—as well as the operations underlying head-movement and how a morphological output is selected—gives us enough tools to understand many aspects of the behavior of languages, even ones as complex and multifaceted as Middle Welsh.

CONCLUSION

1 A System Overhaul

In this dissertation I have tried to account for the behavior of clitics, and for the behavior of affixes and words as well. In order to do this, I have offered a few proposals about how the syntax-morphology-phonology interface functions.

First, I have positioned head-movement as the core of my syntax-morphology interface. I have adopted the two-phase version of head-movement, where the movement is driven by regular syntactic features and a morphological operation m-merge combines the movement-triggering head and the moved head, ala Matushansky (2006). Second, as movement is a prolific operation that applies in many other syntactic situations, I suggested that m-merge too is prolific. If we return to the model of functional and lexical heads in Baker (1988), Rouveret (1990) etc., m-merge may in fact be an essential part of every head's projection. In addition, as others have suggested previously, m-merge is responsible for the process of cliticization, whereby an Xmin/max element, merged in specifier or complement position, can fuse to a local X^0 node. Third, as assuming free m-merge was too powerful, I suggested a constraint, wherein only Xmin elements that are subcategorized with the feature of the functional head may undergo m-merge with that functional head. Diachronically, repeated and significant locality to a functional head X is the context whereby a Xmin/max element can be learned as being subcategorized for X.

Having both movement and m-merge as part of the system of head-movement creates an implication, which is that it is not always necessary for a head to move into the specifier of the higher head to become a single X^0 node. Head-movement, as defined, has always preferred suffixation. The lexical root moves to the left of the higher functional head and the features born

by the higher functional head appear on the right. However, although suffixes are common, they are not the only pattern.

Head-movement is always necessary if there is a Xmax specifier in between the two functional heads that wish to merge. Therefore, in these situations we expect suffixation to be preferred. In cases where there are never intervening Xmax specifiers, either pattern may be available.

Additionally, according to my interpretation of the subset principle, the spell-out for an X^0 node does not require any particular ordering of affixes. All of the features in the head are used to select the output forms of all roots within the head. I suggest that it would be a convenient annotational convention to mark linked words and other elements that are internal to an X^0 node but as not phonological clitics. Affix-type clitics, represented as feature bundles without their own lexical root, only help select which form of the main lexical root appears. They have no ordering requirements. Syncretic forms, reordered forms, and suppletive forms are all options. Multiple roots means multiple vocabulary items, which should mean that the roots are likely to maintain the ordering of the derivation pre-m-merge. However, this is a notational convention derived from the phonological form. As our spell-out operation is constructed, all we can say is that the ordering of subparts of an X^0 node is derived diachronically.

However, certain cases suggest that there is an underlying operation of m-merge without movement rather than m-merge following movement. In Maanyan the passive morphology is prefixal, and assuming the verb has already moved over the projection where the by-phrase and the object initially merged, there is no specifier to prevent m-merge from conglomerating these heads.

156) *Sapidaq* *yeruq* *na-widi* *daya* *ambah*
bicycle the PASS-buy am father
'the bicycle was bought by father' (Spencer and Luís 2012)

Although prefixal morphology is on the whole rarer than suffixal morphology, both patterns exist, and as such, having m-merge function both upwards and downwards along the spine of the tree seems necessary for regular head-movement as well as cliticization.

With m-merge as a basic function underlying cliticization I was able to make a determining hypothesis, that the behaviors of clitics are related to the fact that they, unlike independent words, are linked to an X^0 node of not their basic type. This linkage is what determines their distinct syntactic behaviors and their particular output shapes. Once linked to an X^0 node they cannot undergo the usual phrasal movements that apply to their class. The process of linking to an X^0 node has restrictions also. Once inside a complex X^0 the output form is determined by all of the features that node contains, including those belonging to the X^0 node of a different basic type. The output form of a non-head-linked element is determined only by the features it entered the enumeration with, or received via Agree.

This idea, more than any other, takes the clitic/word distinction for pronouns and breaks it into two syntactic types. Either a φ-marked element is head-linked and is therefore dependent on its X^0 host for its morphological shape, or it is not and its shape is determined by its features alone. Head-linked elements can be internal to an independent phrase and the phrase as a whole can undergo phrase-type movement, but the head-linked element cannot undergo phrasal movement without its directly c-commanding phrases.

Pronouns can be realized in any of these forms—as independent words, as linked-words cliticized to a head, and as special clitics—affix-like phonological clitics, also linked to a head. I argued that the affix-like realization of special clitics had to do with the fact that they were

monomorphemic feature bundles and thus went through the same spell-out processes as inflectional affixes. This connection between special clitics and inflectional affixes reinforces my claim that there is no reason to assume that any output form, whether phonologically massive or highly reduced, entails a uφ or inherent φ origin for its φ features.

2 Constraint through Integration

Some of these ideas may seem very powerful or overly permissive. However, I argue that this is in fact a quite constrained model. Its constraints are motivated through the need to create functioning interfaces. Because we have principled ways for the syntax to affect the morphology and for the morphology to derive its lexical output, possibilities are restricted to those where the transition from member of the numeration to phonological form follow these guidelines.

In addition, the model that I have proposed here is highly influenced by previous theories. Nearly everyone seemed to agree that clitics had something to do with heads, but could not resolve upon a single possibility. I have maintained this intuition and chosen head-linking as the property that connects clitics and heads. We have replaced ideas of deficiency and defectiveness with the concept of Xmin/max and how head-movement can create structured morphological complexity.

Overall, rather than adding in extra operations and mechanisms to explain the behaviors of clitic-words, I have taken a look at the spaces in our model that were unclear and chose particular and constrained ways to interpret them. The most dramatic changes I have made were to the morphology interface—explaining and constraining how word formation occurs during the syntax, suggesting that the subset principle should apply to the output of m-merge, and proposing a link between syntactic representation and phonological spell-out, matching the syntactic notion

of a feature bundle to the way affix-like phonological clitics combine with their lexical roots. Even previously well-regarded theories, such as m-merge, have been revised to be more restricted in my model, and they are more predictive because of these constraints. Using these basic principles and operations, I have offered a means of accounting for a wide variety of data, and I hope that other linguists will find this model useful as they continue to investigate new problems and question old assumptions.

REFERENCES

Albright, A. (1996). Constraints on historical change: The history of stress in welsh. *Senior thesis, Department of Linguistics, Cornell University*.

Anderson, S. R. (1982). Where's morphology?. *Linguistic inquiry*, *13*(4), 571-612.

Anderson, S. R., & Zwicky, A. M. (2003). Clitics. *International encyclopedia of linguistics,*, *1*, 328-328.

Anderson, S. R. (2005). *Aspects of the theory of clitics*. Oxford: OUP.

Auger, J. (1994). On the nature of subject clitics in Picard. *Issues and theory in Romance linguistics*, 159-79.

Auger, J. (1994). Pronominal clitics in Québec colloquial French: A morphological analysis. Doctoral Thesis. University of Pennsylvania.

Awbery, G. M. (1990). The geographical distribution of Pembrokeshire negatives. *Celtic Linguistics/Ieithyddiaeth Geltaidd: Readings in the Brythonic Languages. Festschrift for T. Arwyn Watkins*, *68*, 11.

Awbery, G. M. (1988). Pembrokeshire Negatives+ Welsh. *Bulletin of the Board of Celtic Studies-Bwletin Y Bwrdd Gwybodau Celtaidd*, *35*, 37-49.

Baker, M. C. (1988). Incorporation: A theory of grammatical function changing.

Bayer, J., & Brandner, E. (2008). On wh-head-movement and the Doubly-Filled-Comp Filter.

Beninca, P., & Cinque, G. (1990). On certain differences between enclisis and proclisis. *University of Geneva*.

Berendsen, E. (1986). *The phonology of cliticization*. Walter de Gruyter.

Bermúdez-Otero, R., & Payne, J. (2011). There are no special clitics. *Morphology and its interfaces*, 57-96.

Bildhauer, F., & Cook, P. (2011, May). Multiple fronting vs. VP fronting in German. In *QITL-4-Proceedings of Quantitative Investigations in Theoretical Linguistics 4 (QITL-4)*. Humboldt-Universität zu Berlin.

Bloomfield, L. (1983). *An introduction to the study of language* (Vol. 3). John Benjamins Publishing.

Boeckx, C., & Stjepanović, S. (2001). Head-ing toward PF. *Linguistic Inquiry*, *32*(2), 345-355.

Borsley, R. D., Tallerman, M., & Willis, D. (2007). *The syntax of Welsh*. Cambridge University Press.

Borsley, R. D., & Jones, B. M. (2000). The syntax of Welsh negation. *Transactions of the Philological Society*, *98*(1), 15-47.

Bošković, Ž. (2001). *On the nature of the syntax-phonology interface: Cliticization and related phenomena* (Vol. 60). Elsevier.

Brandner, E. (2004). Head-movement in minimalism, and V2 as FORCE-marking. *The syntax and semantics of the left periphery*, 97-138.

Bresnan, J., & Mchombo, S. A. (1987). Topic, pronoun, and agreement in Chicheŵa. *Language*, 741-782.

Bury, D. (2002). *Particles, V2 and the ungrammaticality of verb-initial structures* (Vol. 12, pp. 368-387). UCL Working Papers in Linguistics.

Campion, E. (1984) Left dislocation in Montréal French. Thèse de doctorat inédite. University of Pennsylvania.

Cardinaletti, A., & Starke, M. (1999). The typology of structural deficiency: A case study of the three classes of pronouns. *Clitics in the languages of Europe, Mouton de Gruyter, Berlin*, 145-233.

Chereches, A. (2014). A prosodic analysis of Romanian pronominal clitics. *University of Pennsylvania Working Papers in Linguistics*, *20*(1), 7.

Chomsky, N. (2000). Minimalist inquiries: The framework. In Martin, R., Michaels, D., and Uriagereka, J. (Eds.) *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, 89–155.

Chomsky, N. (2001). Derivation by phase. *Ken Hale: A life in language,* ed. by Michael Kenstowicz, 1-52.

Chomsky, N. (2013). Problems of projection. *Lingua*, *130*, 33-49.

Collins, C. (2002). Eliminating labels. *Derivation and explanation in the Minimalist Program*, 42-64.

De Cat, C. (2005). French subject clitics are not agreement markers. *Lingua*, *115*(9), 1195-1219.

Deshaies, D., Guilbault, C., Paradis, C. (1992). Prosodie et dislocation à gauche par anaphore en français québécois spontané. In Crochetière, A., Boulanger, J.-C., Ouellon, C. (Eds.) *Actes du XVe Congrès international de linguistique: Université Laval, 9-14 August 1992: endangered languages*, Presses de l'Université Laval.

De Vries, M. (2005). Coordination and syntactic hierarchy. *Studia Linguistica*, *59*(1), 83-105.

Embick, D. (2010). *Localism versus globalism in morphology and phonology* (Vol. 60). MIT Press.

Embick, D., & Noyer, R. (1999). Locality in post-syntactic operations. *MIT working papers in linguistics*, *34*(265-317).

Embick, D., & Noyer, R. (2001). Movement operations after syntax. *Linguistic inquiry*, *32*(4), 555-595.

Evans, D. S. (1964). *Grammar of Middle Welsh*. School of Celtic Studies, Dublin Institute for Advanced Studies.

Everett, D. L., & Mayers, M. (1996). *Why there are no clitics: An alternative perspective on pronominal allomorphy*. Arlington, TX: Summer Institute of Linguistics.

Fanselow, G. (2002). Münchhausen-style head-movement. In *Proceedings of the head-movement workshop. UCLA Working Papers in Linguistics*.

Fuß, E. (2005). *The rise of agreement: A formal approach to the syntax and grammaticalization of verbal inflection* (Vol. 81). John Benjamins Publishing.

Gotowski, M. (2015). Subject doubling in child French. *University of Pennsylvania Working Papers in Linguistics*, *21*(1), 12.

Guilbault, C. (1993). Dislocation à gauche et prosodie en québécois spontané. *Dialangue*, *4*, 34-38.

Halle, M., & Marantz, A. (1993). Distributed morphology and the pieces of inflection.

Halle, M., & Marantz, A. (1994). Some key features of Distributed Morphology. *MIT working papers in linguistics*, *21*(275), 88.

Halle, M. (2000). Distributed morphology: Impoverishment and fission. *Amsterdam Studies In The Theory and History of Linguistic Science Series 4*, 125-150.

Hale, K. (1990). Some remarks on agreement and incorporation. *Studies in Generative Grammar*, *1*, 117-144.

Hannahs, S. J. (2013). *The phonology of Welsh*. Oxford University Press.

Harley, H. (2004). Merge, conflation, and head-movement: The first sister principle revisited. *Paper presented at NELS 34, SUNY Stony Brook*.

Harley, H., & Noyer, R. (1999). Licensing in the non-lexicalist lexicon: nominalization, roots and the encyclopedia. *MIT Working Papers in Linguistics*, *32*, 119-137.

Harlos, A., Poppe, E., & Widmer, P. (2015). Decoding Middle Welsh clauses or "Avoid Ambiguity". *Issues*, *120*.

Hayes, B. (1989). The prosodic hierarchy in meter. *Rhythm and meter. Phonetics and phonology*, *1*, 201-260.

Hestvik, A. (1992). LF movement of pronouns and antisubject orientation. *Linguistic Inquiry*, 557-594.

Isaac, G. R. (1996). *The verb in the book of Aneirin: Studies in Syntax, Morphology and Etymology* (Vol. 12). Walter de Gruyter.

Jackson, K. H. (1953). *Language and history in early Britain: a chronological survey of the Brittonic languages, first to twelfth century AD* (No. 4). Harvard University Press.

Jaeggli, O. (1982). *Topics in Romance syntax.* Dordrecht, Holland ; Cinnaminson, N.J. : Foris.

Johannessen, J. B. (1998). *Coordination*. Oxford University Press.

Kaiser, G. A. (1996). V2 or not V2? Subject-verb inversion in Old and Modern French interrogatives. In *Language Change and Generative Grammar* (pp. 168-190). VS Verlag für Sozialwissenschaften.

Kaiser, E. (2010). Effects of contrast on referential form: Investigating the distinction between strong and weak pronouns. *Discourse Processes*, *47*(6), 480-509.

Kayne, R. S. (1975). *French syntax: The transformational cycle*.

Kayne, R. S. (1994). *Antisymmetry of Syntax (Linguistic inquiry monographs; 25)*. MIT Press.

King, G. (2015). *Modern Welsh: A comprehensive grammar*. Routledge.

Koeneman, O. N. C. J. (2001). *The flexible nature of verb movement* (Doctoral dissertation).

Koeneman, O. (2002, December). The distribution of declarative verb second. In *Studies in Comparative Germanic Syntax: Proceedings from the 15th Workshop on Comparative Germanic Syntax (Groningen, May 26 27, 2000)* (Vol. 53, p. 175). John Benjamins Publishing.

Lechner, W. (2007). Interpretive effects of head-movement. Ms., University of Athens.

Manzini, M. R. (2014). Grammatical categories: Strong and weak pronouns in Romance. *Lingua*, *150*, 171-201.

Marchis, M., & Alexiadou, A. (2013). The syntax of clitics revisited: Two types of clitics. *Lingua*, *127*, 1-13.

Matushansky, O. (2006). Head-movement in linguistic theory. *Linguistic inquiry*, *37*(1), 69-109.

Mohr, S. (2005). *Clausal architecture and subject positions: Impersonal constructions in the Germanic languages* (Vol. 88). John Benjamins Publishing.

Monachesi, P. (1998). Decomposing Italian clitics. *Romance in HPSG*, *75*, 305-357.

Mushin, I., & Simpson, J. (2008). Free to bound to free?: Interactions between pragmatics and syntax in the development of Australian pronominal systems. *Language*, *84*(3), 566-596.

Na, Y & Huck. G. (1992). On extracting from asymmetrical structures. In D. Brentari, G. Larson, and L. MacLeod, (Eds.), *The Joy of Grammar: A Festschrift in Honor of James D. McCawley.*

Nespor, M., & Vogel, I. (1986). Prosodic phonology. Foris. Dordrecht (1986 [1997]).

Panagiotidis, P. (2002). *Pronouns, clitics and empty nouns:'pronominality' and licensing in syntax* (Vol. 46). John Benjamins Publishing.

Poletto, C. (2000). *The higher functional field: Evidence from Northern Italian dialects*. Oxford University Press on Demand.

Preminger, O. (2015). Head-movement, phrasal movement, and clitic doubling: towards a principled typology of locality conditions. Handout from talk presented at NELS 46, October 2015 at Concordia University.

Progovac, L. (1998). Structure for coordination. *Glot International*, *3*(7), 3-6.

Rinke, E., & Meisel, J. M. (2009, March). Subject-inversion in Old French: Syntax and information structure. In *Proceedings of the Workshop "Null-subjects, expletives, and locatives in Romance* (pp. 93-130).

Roberge, Y. (1990). *Syntactic recoverability of null arguments*. McGill-Queen's Press-MQUP.

Roberts, I. (1997). The syntax of direct object mutation in Welsh. *Canadian Journal of Linguistics/Revue canadienne de linguistique*, *42*(1-2), 141-168.

Roberts, I. G. (2005). *Principles and parameters in a VSO language: A case study in Welsh*. Oxford University Press, USA.

Roberts, I. G. (2010). *Agreement and head-movement: Clitics, incorporation, and defective goals* (Vol. 59). MIT Press.

Rouveret, A. (1991). Functional categories and agreement. *The Linguistic Review*, *8*(2-4), 353-388.

Rubin, A. D. (2010). The development of the Amharic definite article and an Indonesian parallel. *Journal of semitic studies*, *55*(1), 103-114.

Schafer, R. (1994). *Nonfinite predicate initial constructions in modern Breton* (Doctoral dissertation, Ph. D. dissertation, University of California, Santa Cruz).

Spencer, A., & Luís, A. R. (2012). *Clitics: An introduction*. Cambridge University Press.

Sportiche, D. (1983). *Structural invariance and symmetry* (Doctoral dissertation, Massachusetts Institute of Technology).

Sportiche, D. (1995). French predicate clitics and clause structure. *Small clauses*, 287-324.

Sportiche, D. (1996). Clitic constructions. In *Phrase structure and the lexicon* (pp. 213-276). Springer Netherlands.

Stalmaszczyk, P. (2007). Prepositional possessive constructions in Celtic languages and Celtic Englishes. *The Celtic Languages in Contact*, 126.

Svenonius, Peter. (2007). Adpositions, particles and the arguments they introduce, in E. Reuland, T.Bhattacharya and G.Spathas (eds.). *Argument Structure,* 71-110. Amsterdam: John Benjamins.

Temple, R. (2012). Gwelodd hi sêr: investigating the role of prosody in the production of Welsh. Paper given at Seminar Ieithyddiaeth y Gymraeg, Plas Gregynog, Newtown, Wales. July 2, 2012.

Toivonen, I. (2003). *Non-projecting words: A case study of Swedish particles* (Vol. 58). Springer Science & Business Media.

Toyoshima, T. (2001). Head-to-Spec movement. *Amsterdam studies in the theory and history of linguistic science, series 4*, 115-136.

Travis, Lisa. 1984. Parameters and effects of word order variation. Doctoral dissertation, MIT, Cambridge, Mass.

Truckenbrodt, H. (1995). *Phonological phrases: Their relation to syntax, focus, and prominence*. Doctoral dissertation, Massachusetts Institute of Technology.

Truckenbrodt, H. (1999). On the relation between syntactic phrases and phonological phrases. *Linguistic inquiry*, *30*(2), 219-255.

Uriagereka, J. (1988). *On Government.* Doctoral dissertation, University of Connecticut.

Valian, V. (1991). Syntactic subjects in the early speech of American and Italian children. *Cognition*, *40*(1), 21-81.

Van Gelderen, E. (2004). Economy, innovation, and prescriptivism: From spec to head and head to head. *The journal of comparative Germanic linguistics*, *7*(1), 59-98.

Vendryes, J. 1920/1950. *Le langage.* Paris: Albin Michel.

Vinet, M. T. (2003). French clitics and object splits. In *Romance linguistics: Theory and acquisition: Selected papers from the 32nd linguistic symposium on Romance languages (LSRL), Toronto, April 2002* (Vol. 244, p. 223). John Benjamins Publishing.

Whitman, J. B. (2001). Relabeling. In S. Pintzuk, G. Tsoulas, & A. Warner (Eds.), *Diachronic syntax: Models and mechanisms.* Oxford: Oxford University Press.

Willis, D. W. (1998). *Syntactic change in Welsh: A study of the loss of verb-second*. Oxford University Press.

Zwicky, A. M., & Pullum, G. K. (1983). Cliticization vs. inflection: English n't. *Language*, 502-513.

Zwicky, A. M. (1977). *On clitics*. Indiana University Linguistics Club.

Zwicky, A. M. (1985). Clitics and particles. *Language*, 283-305.

Zwicky, A. M. (1994). What is a clitic? In Nevis, J. A., Joseph, B. D., Wanner, D., & Zwicky, A. M. (Eds.) *Clitics: A comprehensive bibliography 1892 1991* (Vol. 22). John Benjamins Publishing.